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PORT OF OAKLAND
NOTICE OF AVAILABILITY OF FINAL REVISIONS TO
FINAL ENVIRONMENTAL IMPACT REPORT
OAKLAND HARBOR NAVIGATION IMPROVEMENT (50-FOOT) PROJECT
AND NOTICE OF BOARD MEETING TO CONSIDER
APPROVAL OF THE 50-FOOT PROJECT
January 21, 2000

Notice is hereby given that the Port of Oakland, lead state agency for the Oakland Harbor Navigation Improvement (50-foot) Project, has prepared Final Revisions to the Final Environmental Impact Report for the 50-foot Project ("Final Revisions"). The Final Revisions adds updated environmental analysis to the Final Environmental Impact Report ("FEIR") that was completed in May 1998. The Final Revisions and FEIR (collectively the "Revised FEIR") are available for review at the following locations:

San Francisco Public Library, Stegner Center: Civic Center, Larkin and Grove Street, San Francisco, CA

West Oakland Branch Library: 1801 Adeline Street, Oakland, CA

Oakland Public Library: 125 14th Street, Oakland, CA

City of Alameda Public Library: 2264 Santa Clara Avenue, Alameda, CA

MTC/ABAG Library: 101 8th Street, Oakland, CA

San Leandro Public Library: 300 Estudillo Avenue, San Leandro, CA

University of California Institute of Governmental Studies Library: 109 Moses Hall, Berkeley, CA

University of California Institute of Transportation Studies; 409 McLaughlin Hall, Berkeley, CA

Fairfield-Suisun Library: 1150 Kentucky Street, Fairfield, CA

Petaluma Regional Library: 100 Fairgrounds Drive, Petaluma, CA

Sonoma County Central Library: 3rd and "E" Street, Santa Rosa, CA

Marin County Library: 1720 Novato Blvd., Novato, CA

Port of Oakland, Environmental Department, 530 Water Street, Oakland, CA
(510) 627-1250*

*Please call for an appointment

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PROJECT DESCRIPTION

The 50-foot Project is described in Section 2 of the FEIR and in Section B.2 of the Final Revisions. In summary, the Port of Oakland and the U.S. Army Corps of Engineers propose to deepen and widen the federal channels of Oakland Harbor, and deepen Port-maintained berths, to a depth of 50 feet below mean lower low water (MLLW) in order to accommodate the newest generation of deep-draft container ships. The proposed navigation improvements would involve the dredging and reuse or disposal of approximately 12.8 million cubic yards (mcy) of bottom sediments. Most of the dredged material would be reused for habitat restoration. The proposed dredging and sediment reuse/disposal is anticipated to last approximately 4 years. The federal portion of the project would involve dredging the navigation channels. As the local sponsor, the Port has the sole responsibility for the berth deepening that would occur with this project.

Project Location

The project location is described in Section 1.2 of the FEIR. Oakland Harbor is located on the east side of San Francisco Bay in the City of Oakland, Alameda County, and consists of an Outer Harbor, a Middle Harbor and an Inner Harbor; the entrance channel to all three areas is known as the Bar Channel.

Project's Probable Environmental Effects

Significant unavoidable impacts would occur in three resource areas: air quality, noise and cumulative freeway traffic. For the following resource areas there would be significant but mitigable impacts: surface water resources, geology and groundwater, biological resources, transportation, noise, hazardous materials and contaminated wastes, and cultural resources.

The Preferred Alternative

The Preferred Alternative is identified in the Revised Final EIR as dredging option F to a depth of 50-feet, with the following reuse/disposal options: Middle Harbor Enhancement Area, Vision 2000 Upland, Various Landfills, Hamilton Wetlands Restoration and Montezuma Wetlands Restoration. To the extent that neither Hamilton Wetlands Restoration nor Montezuma Wetlands Restoration is available or feasible within the timeframe necessary for construction, some or all of the material designated for those sites would be disposed of at an upland beneficial reuse site such as the former Naval Air Station Alameda or at the EPA Section 102 San Francisco Deep Ocean Disposal Site.

FEIR and Final Revisions

The Final Revisions will also be available on the Internet as of January 28, 2000, at <http://www.portofoakland.com>.

BOARD MEETING

The Board of Port Commissioners will consider whether to certify the Revised Final EIR and approve the 50-foot Project at its regularly scheduled meeting:

February 1, 2000

3:00 p.m.

Port of Oakland

Board Room, Second Floor

530 Water Street

Oakland, CA 94607

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City of Alameda, California

Special accommodation requests should be directed to Ms. Vickie Arnold, Senior Secretary,
Environmental Planning Department, (510) 627-1174.

INSTITUTE OF ENVIRONMENTAL
STUDIES (IES)

Jan 28, 1991

Mr. Lee Arnold
Port of Oakland
510 Water Street
Oakland, CA 94607

UNIVERSITY OF CALIFORNIA

Re: City of Alameda's Comments on the Port of Oakland's Request to the Federal Environmental
Impact Report for the Oakland Harbor & Navigation Improvement (OHNI) Project

Dear Mr. Arnold:

The City of Alameda, California ("Alameda") is writing to you regarding the
Port of Oakland ("Port")'s request to the Federal Environmental Impact Report for the proposed
Oakland Harbor Navigation Improvement (OHNI) Project. Alameda has already provided
the Port with comments on the Draft and Final Environmental Impact Reports for the project. The
comments Alameda made to supplement Alameda's comments already on record.

Yours Sincerely,

Alameda is pleased that the Port recognizes the cultural and historical importance of the
Todd Shipyard. In recognition of the State Historic Preservation Officer's determination that
Todd Shipyard is eligible for listing on the National Register of Historic Places and the
California Register of Historic Resources, Alameda has placed the property on the Alameda
Historic Building Survey and as an historic district. The condition required is provided by Alameda's
Historic Advisory Board.

The long-term importance of Todd Shipyard is its role in the transportation history of
the San Francisco Bay Area. This site, however, continues to have a role in transportation in the
Bay Area. It houses one of two boat repair facilities in the Bay Area and supports one of four
city's largest shipyards - Bay Ship & Yacht. Maintenance of the working waterfront, as
promoted by the project, will enhance this business as well as future development of the site
for other related transportation purposes. As a result of this project's proposed development
of Todd Shipyard, Bay Ship & Yacht may not be able to continue to operate in this area
and has indicated they would be unable to relocate in the Bay Area. This would, in turn, result in
the loss of 100 full-time jobs and \$5 million dollars in gross receipts from Alameda through the
operation of Bay Ship & Yacht.

Very truly yours,
Mr. Lee Arnold, Senior Secretary

Alameda, California 94607

Mr. Lee Arnold, Senior Secretary (510) 627-1174

October 25, 1999



INSTITUTE OF GOVERNMENT
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JAN 24 2000

UNIVERSITY OF CALIFORNIA

Mr. Jon Amdur
Port of Oakland
530 Water Street
Oakland, CA 94607

Re: City of Alameda Comments on the Port of Oakland Revisions to the Final Environmental Impact Report for the Oakland Harbor Navigation Improvement (-50 Foot) Project

Dear Mr. Amdur:

The City of Alameda, California ("Alameda") submits these comments on the Port of Oakland ("Port") Revisions to the Final Environmental Impact Report for the proposed Oakland Harbor Navigation Improvement (-50 Foot) Project. Alameda has already provided the Port comments on the Draft and Final Environmental Impact Reports for this project. The comments herein are meant to supplement Alameda's comments already on record.

Todd Shipyard

Alameda is pleased that the Port recognizes the cultural and historical importance of the Todd Shipyard. In recognition of the State Historic Preservation Officer's determination that Todd Shipyard is eligible for listing on the National Register of Historic Places and the California Register of Historic Resources, Alameda has placed the property on the Alameda Historic Building Study List as an historic district. Demolition control is provided by Alameda's Historical Advisory Board.

The recognized importance of Todd Shipyard is its role in the transportation history of the San Francisco Bay Area. This site, however, continues to have a role in transportation in the Bay Area. It houses one of two boat repair facilities in the Bay Area and contains one of the City's largest employers -- Bay Ship & Yacht. Elimination of the working waterfront, as potentially proposed by this project, will eliminate this business as well as future use of the site for marine-related transportation purposes. As a result of this project's proposed elimination of pier space at Todd Shipyard, Bay Ship & Yacht may not be able to continue to operate at this site and has indicated they would be unable to relocate in the Bay Area. This could, in turn, result in the loss of 300 full time jobs and 20 million dollars in gross revenues from Alameda through the displacement of Bay Ship & Yacht.

Office of the City Manager

2263 Santa Clara Avenue, Room 320
Alameda, California 94501

510 748-4505 Office - 510 748-4504 Fax - TDD 510 522-7538

One of the proposed mitigations states: "If feasible, replace the ship repair working space...". There is obviously no commitment on the part of the Port to ensure that the very aspect of this property which makes it historic, its transportation focus, can be retained. How is feasibility determined and by whom? The maintenance of a working waterfront is paramount to the continued post-war civilian use of maritime facilities by the present property owner. Given the uncertainty of the Port's commitment to preserving the Todd Shipyard, the following mitigations must be included to supplement those proposed:

- a. The Port shall fund a complete assessment of all structures on the property. All buildings and structures must be documented pursuant to consultation with the Pacific Coast Basin Systems Support Office, National Park Service, San Francisco. At a minimum, documentation and recordation must meet the standards of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER).
- b. In order for the Alameda Historic Advisory Board to understand the full impacts of the proposed demolitions, the Port shall fund a tour for the Alameda Historic Advisory Board and other interested persons, guided by appropriate personnel trained in documentation and recordation of historic buildings and structures, to describe and explain which structures or buildings would be proposed for demolition, which structures or buildings would be proposed for rehabilitation and which structures or buildings would be proposed for relocation.
- c. The Port shall fund and prepare the proposed preservation maintenance plan for the historic district. The plan shall be reviewed by Alameda staff and the property owner. The preservation plan shall take into account proposed plans for Mitchell Mosely Extension and other plans by the City of Alameda.
- d. The Port shall present its findings from (a) and © above to the Alameda Historic Advisory Board for their review and concurrence as part of the Section 106 consultation required for the Army Corps of Engineers.

Impacts on the National Register-eligible South Training Wall

Alameda is pleased that the Port recognizes the cultural and historical importance of the National Register-eligible South Training Wall. In accordance with Navy request, Alameda will be placing the structure on the Alameda Historic Building Study List under the category of Miscellaneous Resources later this year. Demolition control would then be provided by Alameda's Historical Advisory Board.

The document states that there will be no impact to the National Register-eligible South Training Wall because previous geotechnical studies indicate that dredging would not destabilize the foundation. This statement is not correct. Geotechnical monitoring of the shoreline in the

location of the Training Wall is required as a mitigation measure. The FEIS/EIR suggests that "a geotechnical monitoring system might be implemented" during construction. FEIS/EIR Volume V at X-23 (emphasis added). The FEIS/EIR provides no indication that the Port and the Corps will, in fact, adopt and implement the monitoring system which would ensure adequate protection of this historic resource. This information is critical in that the Port and the Corps' own geotechnical consultant identified the need for this monitoring. See FEIS/EIR Volume III, Appendix D at 82. Therefore, in order to adequately protect this historic resource, Alameda suggests the following mitigation:

"The Port of Oakland shall monitor the dredging operations to ensure there are no impacts to the National Register-eligible South Training Wall. Should slippage or other damage begin to occur, dredging operations in that location shall cease until the Port and Corps, in coordination with the City of Alameda, can propose a method of adequate shoring and rehabilitation."

Noise Impacts

The document correctly notes that previously-vacant Alameda Point housing is now occupied. Therefore, the assessment of potential noise impacts is even more critical now than before. However, the document fails to accurately assess noise impacts to citizens of Alameda by using an incorrect standard. Applying the Noise Ordinance of another jurisdiction, in this instance, the City of Oakland, is an incorrect significance criteria. Noise impacts must be assessed using the City of Alameda Noise Ordinance which contains hourly exceedence levels. Based upon interpretation of the correct Noise Ordinance, it would appear the project may result in the Alameda noise level standards being violated.

Further, the document provides no information upon which to base its conclusion that no significant noise impacts would remain after mitigation. Pile driving remains a highly intrusive, highly annoying and disruptive occurrence that will take place at all hours. As comments on the DEIS/EIR pointed out, no interior noise level studies were performed, and vessel-related noise would violate Alameda's noise standards during nighttime. No information has been presented in this document which indicates interior measurements have been made or that vessel operations have changed substantially so that violations to Alameda's Noise Ordinance would not occur. The document should evaluate the potential noise impacts on proximate residential uses, based on the Alameda noise standards, for construction activities as well as vessel-related noise in both the daytime and nighttime hours.

Dredge Disposal

Alameda would like to reemphasize its interest in the use of clean dredged sands should they become available.

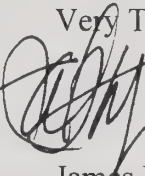
Letter to Amdur
October 25, 1999

Page 4

Conclusion

The City of Alameda recognizes the importance of the Port of Oakland for the economic health of the region and therefore supports maintaining the Harbor Channels and the Estuary for continuing viability of these facilities. Alameda believes that additional measures are required to properly mitigate potential impacts to Alameda's cultural resources and that additional studies and mitigations are necessary to mitigate significant noise impacts to Alameda. Alameda looks forward to working with you on these issues, as well as issues which the City has previously raised, to create a viable waterfront for both sides of the Estuary.

Very Truly Yours,

A handwritten signature in black ink, appearing to read 'J. Flint', is written over a large, sweeping, curved line that extends from the signature down towards the left margin.

James M. Flint
City Manager

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xc: Distribution List attached

Distribution List:

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San Francisco, CA 94105

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2236 Mariner Square Drive
Alameda, CA 94501

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HENN & ETZEL INC.

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TELEPHONE: (415) 392-4600
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file #76064

FREDERICK M. ETZEL
DIRECT DIAL NUMBER
(415) 732-5698

October 21, 1999

VIA: Telecopier and Federal Express

Jon Amdur
Port of Oakland
530 Water Street.
Oakland, CA 94607

RE: Comments on the Oakland Harbor Navigation Improvement (-50 Foot)
Project, Revisions to the Final Environmental Statement, Section A,
The Todd Shipyard Historic District

Dear Sir:

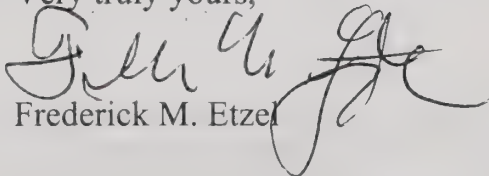
This office represents BAY SHIP & YACHT CO. ("BS&Y"), located at 2900
Main Street, Alameda, California. BS&Y has the following comment on Section A, The
Todd Shipyard Historic District of the Revisions document.

BS&Y is very supportive of the first Mitigation Measure listed on page 4, which
reads as follows:

If feasible, replace the ship repair working space (consisting
of approximately 1,200 feet of linear space with adjoining
deep water) that would be eliminated by the Project, so that it
would be physically possible for ship repair operations to
continue at the District.

Thank you for the opportunity to comment on the revisions document.

Very truly yours,


Frederick M. Etzel

FME:jmj
CC: Bill Elliott
Cris Kraft

RECEIVED
99 OCT 25 AM 10:47
ENVIR. PLANNING DEPT.

October 20, 1999

Jon Amdur
Port of Oakland
530 Water Street
Oakland, CA 94607**VIA FACSIMILE AND U.S. MAIL****Re:** Oakland Harbor Navigation Improvement (-50 Foot) Project: Revisions to Final Environmental Impact Report: Impacts of Ballast Water Discharges

Dear Mr. Amdur:

This letter constitutes the joint comments of the Center for Marine Conservation (CMC); the San Francisco BayKeeper; the Pacific Coast Federation of Fishermen's Associations (PCFFA); the Natural Resources Defense Council (NRDC); the Environmental Defense Fund; and Save San Francisco Bay Association on the above-described Oakland Harbor Navigation Improvement (50-Foot) Project: Revisions to Final Environmental Impact Report ("FEIR Revisions document"). PCFFA is a non-profit trade association; each of the other groups is a non-profit, public interest organization. All of the co-signatories have offices in the San Francisco Bay Area. Many of the members of, and persons represented by, these organizations reside, work and/or recreate in or along the San Francisco Bay/Delta area and enjoy its many benefits.

In addition to the comments contained in this letter, we include and incorporate by reference the comments and supplemental information and documents submitted by CMC, the San Francisco BayKeeper, and other listed signatories in response to the draft and final Environmental Impact Report for the Berths 55-58 Project ("Berths Project") and the draft and final Environmental Impact Statement/Environmental Impact Report/Feasibility Study for the Oakland Harbor Navigation Improvement (-50 Foot) Project ("Deepening Project" or "Project"). In addition, we incorporate by reference: Cohen, Dr. Andrew, San Francisco Estuary Institute, *Ships' Ballast Water and the Introduction of Exotic Organisms into the San Francisco Estuary* (Oct. 1998) and Reeves, Eric, *Analysis of Laws and Policies Concerning Exotic Invasions of the Great Lakes* (March 15, 1999).

This letter supplements our comments at the public hearing concerning the Deepening Project and our letters dated March 4, 1998, March 30, 1998, April 23, 1998, June 29, 1998, January 6, 1999, January 28, 1999, and April 19, 1999. In these communications, we expressed our concerns regarding the impact of the Port's proposed expansion on the introduction of non-native species into the San Francisco Bay-Delta ecosystem.

We appreciate the Port's decision to become the first major U.S. West Coast port to adopt a tariff mandating ballast water exchange, with exceptions, for its tenants. However, we have concerns regarding the adequacy of this effort to mitigate for the impacts of non-native species. Based on our review of the FEIR Revisions document and its responses to our earlier presentations and letters, we submit the attached comments. In brief:

- We agree with the findings that “[n]onindigenous aquatic animals and plants have had a profound impact on the ecology of the Bay” and that the “[d]ischarge of ballast water is the primary mechanism” by which these species are spread.¹
- We believe the specific issue of volume of ballast water discharged has not been adequately discussed, analyzed or documented in the FEIR Revisions document or prior environmental analyses, and that additional analysis is necessary to address adequately this important issue.
- Both the final document and earlier analyses fail to address other important variables that may result in significant impacts associated with non-native species populations. For example, the document fails to discuss whether the new ships will be faster, thus allowing more entrained species to survive their voyage; and fails to discuss the locations of ports for which Oakland will now become “first port of call,” which impacts the number of direct discharges from foreign ports.
- The document should address other routes of exposure to non-native species, such as from the hull surface, sea chests, and anchors and anchor chains, and the role that disturbance plays in creating favorable habitat for non-native species.
- The document should assess the realistic effectiveness of ballast water exchange as a mitigation measure and investigate alternative, long-term mitigation measures that better address the problems created.

The undersigned organizations request that the FEIR Revisions document be revised to address the above-described issues and discuss adequately the significant impacts the Project will have on the Bay/Delta ecosystem due to non-native species. We also request that these revised documents be recirculated for public review and comment.

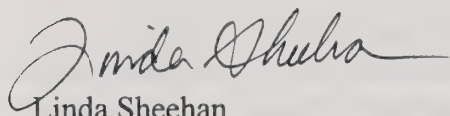
Finally, we request that the lead agencies:

- Develop and implement a pilot project for onshore transfer and treatment of all ballast water discharged from vessels using the Port, and investigate the development of a long-term plan to conduct onshore or in-Bay transfer and treatment of ballast water.
- Stay apprised of all emerging on-ship and on-shore technology for alleviation of the introduction of alien species into the Bay and formulate a plan to ensure implementation of these technologies as they become feasible.

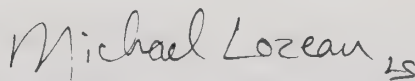
¹ Final EIS/R/FS, Appendix X, p. X-6.

Thank you for your attention to these comments. Should you have any questions, please do not hesitate to contact Linda Sheehan at the Center for Marine Conservation or Michael Lozeau with San Francisco BayKeeper.

Very truly yours,



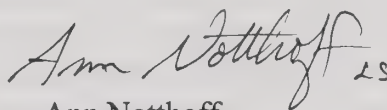
Linda Sheehan
Pollution Programs Manager
Center for Marine Conservation



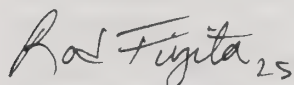
Michael Lozeau
Executive Director
San Francisco BayKeeper



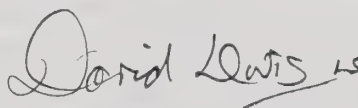
Zeke Grader
Executive Director
Pacific Coast Federation of Fishermen's Assos.



Ann Notthoff
California Advocacy Director
Natural Resources Defense Council



Dr. Rod Fujita
Scientist for the Oceans Program
Environmental Defense Fund



David Lewis
Executive Director
Save San Francisco Bay Association

enclosures

cc: Eric Joliffe, U.S. Army Corps of Engineers
Robert McIntyre, U.S. Army Corps of Engineers
The Honorable Ted Lempert, Assembly Member
Felicia Marcus, U.S. EPA Region IX
Michael Spear, U.S. Fish and Wildlife Service
William Hogarth, National Marine Fisheries Service, Southwest Region
Vice-Admiral Card, U.S. Coast Guard, Pacific Region
Mary Nichols, Cal. Resources Agency
Winston Hickox, Cal-EPA
Robert Hight, Cal. Dep't of Fish and Game
Gary Gregory, State Lands Commission
Walt Pettit, State Water Resources Control Board
Will Travis, Bay Conservation and Development Commission
Loretta Barsamian, Regional Water Quality Control Board, Region 2
Gary Carlton, Regional Water Quality Control Board, Region 5

**COMMENTS OF THE CENTER FOR MARINE CONSERVATION, SAN FRANCISCO
BAYKEEPER, PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS,
NATURAL RESOURCES DEFENSE COUNCIL, ENVIRONMENTAL DEFENSE FUND,
AND SAVE SAN FRANCISCO BAY ASSOCIATION REGARDING THE PORT OF
OAKLAND DEEPENING PROJECT FEIR REVISIONS**

Non-native species are being introduced into the San Francisco Bay/Delta ecosystem through discharge of ballast water at an alarming rate, causing significant environmental and economic impacts and posing threats to human health. The Final Environmental Impact Statement/Environmental Impact Report/Feasibility Study for the Deepening Project ("Final EIS/R/FS") acknowledges that "the San Francisco Estuary is the most invaded aquatic ecosystem in North America" and agrees that "[n]onindigenous aquatic animals and plants have had a profound impact on the ecology of the Bay" and that the "[d]ischarge of ballast water is the primary mechanism" by which these species are spread.² Yet, the Final EIS/R/FS fails to provide the detailed analysis and mitigation measures discussion that is needed to address this significant problem and that is required by state and federal law. The Revisions to the EIS/R/FS ("FEIR Revisions document") add none of the additional analysis required by law.³ For these and other reasons, the FEIR Revisions document and the Final EIS/R/FS itself fail to comply with the requirements of the California Environmental Quality Act, Cal. Public Resources Code §§ 21000 *et seq.* (CEQA), the National Environmental Policy Act, 42 U.S.C. §§ 4321 *et seq.* (NEPA), and, as discussed in the letter to the Port dated January 6, 1999,⁴ the Endangered Species Act, 16 U.S.C. §§ 1531 *et seq.* (ESA).

In particular, the document fails to provide an adequate, documented analysis of the change in the volume of ballast water discharged under the Project, despite a clear need for accurate and complete information. The FEIR Revisions document fails to address specifically the questions related to ballast water volumes raised in earlier comment letters. If the full range of impacts is not understood, it is impossible to determine whether the measures adopted will actually mitigate those impacts.

The document also fails to discuss a number of significant variables that affect the amount and type of non-native organisms that will be discharged under the proposed Project, and the likelihood that they will survive in the Bay-Delta ecosystem. These variables include but are not limited to the following:

- the relative speed of the vessels that will use the Port under the proposed Project;
- the relative increase in the number of ships that will utilize Oakland as a "first port of call" and the locations of those ports;

² Final EIS/R/FS, Appendix X, p. X-6.

³ The FEIR Revisions document instead only changes the vessel traffic figures. FEIR Revisions, p. 16 ("the description of the ballast water issue, as contained in the FEIS/R . . . Appendix X . . . still applies").

⁴ Letter from Deborah Sivas, Stanford Environmental Clinic to Lt. Gen. Joe Ballard and Lt. Col. Peter Grass, U.S. Army Corps of Engineers (Jan. 6, 1999) (Sixty-Day Notice of Intent to Sue for Violation of Sec. 7 of the Endangered Species Act).

- the relative increase in export trade, as compared with import trade, at the Port;
- the relative increase in the number of calls by ships using the Port that are arriving from “biological hot spots” or previously under-visited foreign ports;
- discharges off the hull surface; and
- discharges into dredged areas.

Finally, the document fails assess adequately the actual effectiveness of the proposed mitigation measures and fails to recommend any long-term mitigation measures, despite the fact that the problems associated with non-native species are long-term and will only increase over time. A wide range of preventative and other measures can and should be used to begin to minimize the risk of invasions in relatively straightforward ways. Mitigation is needed now to avoid the significant risks associated with the project and its cumulative impacts.

Each of these issues is discussed below in more detail.

I. THERE HAS BEEN NO ADEQUATE ANALYSIS OF THE PROJECT’S IMPACTS RELATED TO INVASIONS OF NON-NATIVE SPECIES IN THE BAY-DELTA ECOSYSTEM

As discussed and documented in our earlier letters to the Port and the Corps on the Navigation Improvement Projects, non-native species pose significant threats to the health of the environment, economy and the public, both nationwide and in the San Francisco Bay and Delta. We strongly agree with the Final EIS/R/FS’s finding that non-native species can “seriously upset the existing ecological balance at the discharge location” in general, and can have a “profound impact” on the Bay-Delta environment in particular. In light of such facts, and on the lack of analysis of the issue to date, we are perplexed at the findings that “the 50-Foot Project would not cause a significant impact from ballast water discharges” and that the ballast water ordinance “goes far beyond mitigating” the ballast water impacts of the Berths project.⁵

Information, which should be available to the Port and the Corps, on the projected increase in calls by type of ship, the corresponding increase in ballast water discharged over the “no project” alternative, the increase in the speed of the vessels, general information on the ports that will be visited and the order in which they are projected to be visited (*i.e.*, information on the increase in the number of ships making Oakland first port of call), and on other, related variables, must be used to accurately determine the extent of the potential impacts. This has not yet been done. Without such an analysis, it is premature to conclude either that the Deepening Project has no significant impact, or that the new ordinance is sufficient mitigation for the individual or cumulative impacts of the Deepening Project and associated projects.

⁵ FEIR Revisions, pp. 15, 16.

II. THE FEIR REVISIONS DOCUMENT FAILS TO PROVIDE ADEQUATE INDIVIDUAL OR CUMULATIVE IMPACT ANALYSES OF THE VOLUME OF BALLAST WATER DISCHARGED

In our letter dated June 29, 1998, we raised several questions regarding the assumptions made in the Final EIS/R/FS's calculation of the volume of ballast water discharged. We stated that, with only minor and reasonable changes in the assumptions made, the finding that ballast water discharges would decrease changes to a finding that ballast water discharges would increase under the Project. These questions regarding discharge assumptions have been ignored. Instead, the FEIR Revisions document simply changes the number of vessel calls in order to reduce the potential ballast discharges under the Project.

Moreover, the analysis still ignores the cumulative impacts of the Navigation Improvement Project, which includes the Deepening Project and other, related projects in the Bay. The FEIR Revisions document states that the figures in Table 1 in Appendix X of the Final EIS/R/FS represent the "increases in vessel calls associated with all of the Port's proposed new maritime projects."⁶ We noted in our letter of June 29, 1998 that, based on the figures in Table 1 of Appendix X, ballast water discharges could increase 24 to 124 percent with only minor changes in the assumptions made. However, the Final Revisions document discusses mitigation for only a five percent increase in vessel discharges (resulting from the Berths 55-58 Project),⁷ mitigation that is inadequate to address the full impacts of the Port's navigation improvement activities.

As noted in our letter dated March 30, 1998, an EIR must discuss "cumulative impacts" when they are significant.⁸ "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."⁹ To be adequate, the Final EIS/R/FS's discussion of cumulative impacts must: (1) list past, present, and reasonably foreseeable probable future projects, including those outside the lead agency's control, that have produced or are likely to produce related or cumulative impacts associated with ballast water discharge, (2) a summary of the expected environmental effects of these individual projects, and (3) a reasonable analysis of all of the listed projects' cumulative impacts, with an examination of reasonable options for mitigating or avoiding such effects.¹⁰

An example of a past project that the EIS/R/FS should consider is the most recent Port of Oakland deepening project, the "42-foot Navigation Improvement: Oakland Inner and Outer

⁶ *Id.*

⁷ *Id.*, p. 16.

⁸ 14 C.C.R. § 15130(a).

⁹ 14 C.C.R. § 15355(b); *see, e.g., Environmental Protection Information Center, Inc. v. Johnson*, 170 Cal.App.3d 604, 624-25 (1st Dist. 1985) (California Dep't of Forestry abused its discretion by failing to consider, prior to approving a timber harvest plan, the cumulative impacts of past logging operations in the project area).

¹⁰ 14 C.C.R. § 15130(b).

Harbors.” Impacts from other past, present and reasonably foreseeable probable future deepening and maintenance dredging projects in the San Francisco Bay/Delta region also should be considered in identifying the cumulative impacts associated with these projects and the current Project. The Final EIS/R/FS should assess “the collective or combined” effect of both the proposed Project and these other, identified projects; the more severe the existing environmental problems are, the lower the threshold should be for treating a project’s cumulative impacts as significant.¹¹

Both the Final EIS/R/FS and the FEIR Revisions document fail to assess the cumulative impacts of the Project, and so are inadequate under state and federal law. We urge the Port to respond to the questions and concerns raised in our prior letters fully and address these impacts adequately.

III. THE FEIR REVISIONS DOCUMENT IGNORES A NUMBER OF CRITICAL VARIABLES THAT WILL AFFECT THE NUMBER AND TYPE OF NON-NATIVE ORGANISMS DISCHARGED AND THE PROBABILITY THAT THEY WILL SURVIVE IN THE SAN FRANCISCO BAY AND DELTA

The FEIR Revisions document assumes that the ballast water ordinance fully mitigates for any and all impacts of the Deepening Project and all other associated port expansion and improvement projects, including both past and reasonably foreseeable future projects. However, as stated repeatedly in our prior letters, the Port has failed to complete an adequate analysis of those impacts. Therefore, the Port cannot assume that the identified mitigation is sufficient to address the potentially significant impacts.

As described in our prior letters, the volume of ballast water discharged is by no means the only indicator of whether the Project will impact significantly the Bay-Delta environment. The number and type of live organisms discharged, and the habitat into which they are released, are equally important factors. Indeed, the Final EIS/R/FS acknowledges that “[t]he likelihood that any particular discharge of ballast water will lead to the introduction of an invasive species depends upon many variables,” including but not limited to: “[t]he probability of the organism being in the ballast water or the associated sediment, . . . [t]he probability of the organism surviving in transit, . . . [t]he volume and location of the ballast water discharge, . . . [and] environmental factors affecting the survival of transplanted organisms”¹² However, the Final EIS/R/FS only lists these variables; neither that document nor the FEIR Revisions document attempts to investigate their actual importance to the Project and its impacts.

With respect to the first factor, work has been done in determining which foreign ports are “biological hot spots”; *i.e.*, which harbor the more destructive organisms.¹³ Information

¹¹ *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d 692, 718-21 (5th Dist. 1990).

¹² Final EIS/R/FS, Appendix X, pp. X-7 - X-8.

¹³ National Sea Grant Program, *The Role of Shipping in the Introduction of Nonindigenous Aquatic Organisms to the Coastal Waters of the United States (other than the Great Lakes) and an Analysis of Control Options*”), pp. 132-36 (April 1995) (“Shipping Study”).

should be provided in the EIS/R/FS as to whether ships will be increasing calls at those ports under the Project.

The probability that an organism from a particular port will arrive in the Bay-Delta ecosystem is directly related to whether Oakland will become "first port of call" for more vessels under the Project. The Port itself acknowledges that "substantial discharge of any ballast water from ships making the Port their first U.S. mainland port of call . . . is assumed to increase the risk of invasive species introductions significantly."¹⁴ "Substantial" necessarily means "any" discharge, as invasive organisms can flourish and survive in relatively small amounts of water. However, the Port failed to identify the extent and originating locations of this new traffic. Instead, the Port simply asserts that 5-10% more vessels may make Oakland their first U.S. mainland port of call under the expansion projects.¹⁵ It seems unlikely that such significant expansion activities would be undertaken with absolutely no knowledge of such directly relevant data as projected new business. Because such information will describe the types and numbers of organisms discharged under the Project, it cannot be ignored in the final analysis, as it has been to date.

Another major factor that must be addressed and that should be readily quantifiable is the relative speed of the vessels that will use the Port under the proposed Project. "Faster vessels are a much larger threat" because the faster the vessel trip, the more likely the entrained organisms will survive the voyage.¹⁶ Thus, a faster post-Panamax vessel with less ballast water may discharge a higher gross number of live, non-native organisms than a Panamax vessel with more ballast water; this difference, of course, would be exacerbated in faster vessels discharging more ballast water. A speedier vessel also will be able to visit more ports in less time, thereby spreading a greater variety of species faster. Neither the Final EIS/R/FS nor the FEIR Revisions document contain information on the speed of the post-Panamax vessels, but it seems unlikely that ships are being built to travel more slowly.

The projected locations of the ballast water discharges also should be examined; there should be ships' records of these sites. There has been no analysis of whether the ballast water will be discharged near recently-deposited dredge spoils or recently dredged channels. Numerous scientific studies indicate that disturbed sites can be favorable habitats for non-native species. Ignoring the studies cited in our earlier letters, the responses to our comments on the Berths 55-58 FEIR made the completely unsupported claim that this factor "is a supposition that has not been established as fact."¹⁷ We urge the Port to review the citations in our letter dated June 29, 1998 and respond with an adequate analysis of the data in those technical articles.

The FEIR Revisions document also ignores the extensive data presented in our comment letter of January 29th regarding the increase in net exports projected for the Port. As noted in our letter, the projected rapid rise in net exports can be correlated with an increase in ballast water

¹⁴ FEIR, Berths 55-58 Project, p. 3-72.

¹⁵ *Id.*, p. 3-70.

¹⁶ Reeves, Eric, U.S. Coast Guard, personal communication (June 18, 1998) ; Shipping Study, p. 151.

¹⁷ FEIR, Berths 55-58 Project, p. 3-72.

discharges. In response to these concerns, the Responses to Comments on the Berths 55-58 FEIR simply concludes that there will not be a problem because "it is to shippers' economic advantage to both arrive and depart with maximum cargo loads."¹⁸ While this seems to be a logical deduction, it is not necessarily borne out in practice, as shown by the data presented in our comments. To be responsive under CEQA, the Final EIR should respond to the specific comments and data presented in our letters of January 29th and April 19th, rather than rely on undocumented assertions.

Finally, the FEIR Revisions document also ignores other potentially important routes of exposure that may increase with the introduction of larger vessels. For example, non-native species attached to the outside of the vessel, particularly the hull, can be an important contributor to invasion of the San Francisco Bay-Delta.¹⁹ Historically, hull fouling has been the most important vector for introducing exotic organisms into the Bay-Delta ecosystem, with ballast water more important only in recent years. Organisms attached to the anchors and anchor chains also can prove to be a vector for non-native organisms.²⁰ The Responses to Comments on the Berths 55-58 FEIR simply discounted this information without supporting data. These vectors should be discussed more fully in the FEIR Revisions document.

Non-native species also can be found inside vessels in areas that are exposed or otherwise connected to the external environment. In particular, internal sites for fouling include the sea chest (also called the sea inlet box, or suction bay) and seawater pipes, including intakes. Again, the relatively greater surface area of the post-Panamax ships appears to pose greater risks of invasion from this route than the Panamax vessels currently in use. These potentially significant routes of exposure, which have been ignored to date, despite our requests for analysis, must be discussed in order to assess adequately the risks associated with the Project.

IV. THE FEIR REVISIONS DOCUMENT FAILS TO RECOMMEND AND ADOPT NECESSARY MITIGATION MEASURES

CEQA requires that agencies adopt feasible mitigation measures in order to substantially lessen or avoid otherwise significant environmental impacts.²¹ To effectuate this requirement, an EIR must set forth and discuss each feasible mitigation measure for each potentially significant impact.²² Mitigation measures are those measures that are capable of avoiding, minimizing, rectifying, reducing or eliminating project impacts.²³ Similarly, to meet the goals of NEPA, an EIS must "inform decisionmakers and the public of the reasonable alternatives which would

¹⁸ *Id.*, p. 3-73.

¹⁹ See, e.g., Shipping Study, pp. 24-32; San Francisco Regional Water Quality Control Board, "Draft Exotic Species TMDL Workplan – Workload," pp. 5-6 (May 1999).

²⁰ Shipping Study, pp. 24, 34-35, 37; see also McMahon, R., "The Physiological Ecology of the Zebra Mussel, *Dreissena polymorpha*, in North America and Europe," *American Zoologist*, vol. 36, pp. 244-58 (1996); Schormann, J., Carlton, J. T., and M. R. Dochoda, "The Ship as a Vector in Biotic Invasions," *Trans. Inst. Mar. Engineers*, vol. 102, pp. 147-52 (1990).

²¹ Cal. Pub. Res. Code §§ 21002, 21081(a); 14 C.C.R. §§ 15002(a)(3), 15021(a)(2), 15091(a)(1).

²² Cal. Pub. Res. Code § 21002; 14 C.C.R. § 15126(c).

²³ 14 C.C.R. § 15370.

avoid or minimize adverse impacts or enhance the quality of the human environment.”²⁴ This discussion must be supported by evidence that the agency has made the necessary environmental analyses.²⁵ Moreover, the agency must “[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why not.”²⁶ While we appreciate the Port’s adoption of a tariff mandating offshore ballast water exchange, this is at best an interim step; long-term mitigation must be a part of the Project, which itself will generate long-term impacts.

A. The Proposed Mitigation Measures Have Not Been Shown to Mitigate the Potentially Significant Individual and Cumulative Impacts of the Project

Because the analysis of the range of potentially significant impacts from the Project, and related projects, has not yet been done, it is premature for the Port to make the conclusions it has regarding the significance of the Project’s impacts or the adequacy of the proposed mitigation measures to address individual and cumulative impacts. Indeed, contrary to the Port’s conclusions, the information presented to date indicates that it is unlikely that the proposed mitigation will address the potentially significant impacts of these activities. This is discussed more completely in our letter dated January 28, 1999.

Moreover, ballast water exchange itself cannot be a long-term solution to the problems created by the Project and related projects. The San Francisco Regional Water Quality Control Board, which is developing a Total Maximum Daily Load for non-native species in the Bay, concludes that, because of ship safety concerns and continued risk of exotic species introductions, open ocean exchange is considered only an “interim solution” while technology is developed and implemented.²⁷ This conclusion is supported by the fact that, as noted in our prior comment letters, the efficiency of ballast water exchange varies widely based on how it is conducted and the conditions under which it is conducted. Efficiencies typically vary from 90% down to 10%,²⁸ not including the significant number of times when ships cannot exchange due to safety concerns. Accordingly, adequate mitigation of the Project’s individual and cumulative impacts, which will extend indefinitely, requires a more long-term and complete solution.

B. Additional Analysis Should Be Made Regarding the Use of Onshore and/or In-Bay Ballast Water Treatment

The Port indicates that it “committed to exploring the possibility” of requiring ballast water discharged from trans-oceanic vessels to be treated in the EBMUD system,²⁹ but that EBMUD declined because “its system is not designed to treat, and would be damaged by, saline

²⁴ 40 C.F.R. § 1502.1.

²⁵ *Id.*

²⁶ 40 C.F.R. § 1505.2(c).

²⁷ Staff Report from Steven Moore to Loretta Barsamian, Regional Water Quality Control Board, San Francisco Bay Region, “Exotic Species In The San Francisco Bay-Delta,” p. 2 (9/7/99).

²⁸ Draft EIR, Berths 55-58 Project, p. 9.

²⁹ FEIR, Berths 55-58 Project, p. 3-77.

water.”³⁰ However, the San Francisco Estuary Institute (SFEI) and staff of San Francisco's Southeast Wastewater Treatment Plant have been working together to investigate the possibility of using the plant for treating ballast water and have found different results. Calculations to date indicate that all of the ballast water carried by ships using the Port of San Francisco could be treated at the Plant with no negative impact on the plant's operations. This information suggests that there may be opportunities available to the Port of Oakland for cost-effective on-shore treatment of ballast water that have yet to be investigated. We request that the Port investigate this issue further, beginning with discussions with the Treatment Plant staff working on this issue and Dr. Andrew Cohen of SFEI.

We also question the assertion that establishment of ballast water treatment facilities at the Port would be “prohibitive” in cost and would “place the Port of Oakland at a competitive disadvantage” with other ports.³¹ As discussed in our June 29th letter, this assertion not only is unsupported by any analysis in the Final EIS/R/FS, it also runs counter to several studies of port selection and treatment costs. Furthermore, analyses in both the economic section of the Final EIS/R/FS and in the cargo projections of BCDC's San Francisco Bay Area Seaport Plan conclude that much of the current and projected cargo volume passing through the Port of Oakland is cargo going to or coming from central California, which would not be diverted to other Port regions even if the costs of shipping through Bay Area ports were to change. It would simply cost too much to send it by truck or rail to or from another Pacific Coast port. This suggests that requiring rigorous ballast water management or treatment, even if it were to increase the costs of shipping cargo through the Port of Oakland, would be unlikely to cause cargo to be diverted to ports in other regions, such as the Port of Los Angeles/Long Beach or ports in Puget Sound. Furthermore, other Bay Area ports do not have the capacity, or the road or rail connections, to offer significant competition to Oakland for container traffic. Thus, requiring rigorous ballast water management or treatment is unlikely to put Oakland at a significant competitive disadvantage relative to other ports.

Finally, the Final EIS/R/FS contains no discussion of in-Bay transfers of ballast water to other vessels that could be used for treatment or other ballast handling. This alternative is being actively studied in Washington state and could be a viable alternative for the Port.

The problems associated with established non-native species cannot be eliminated. Accordingly, the Port can mitigate these problems adequately only with a long-term solution that corresponds with the long-term nature of the impacts. Ballast water exchange is not that long-term solution. To mitigate the Project's impacts adequately under state and federal law, the Port must evaluate and implement long-term measures such as on-shore or in-Bay treatment.

³⁰ *Id.*

³¹ Final EIS/R/FS, Appendix X, p. X-10.

C. Proactive Mitigation Measures Must Be Investigated and Adopted to Comply with CEQA and NEPA

In light of the well-documented threats and existing, serious problems posed by non-native species in the San Francisco Bay and Delta, we are surprised at cursory, and legally inadequate, discussions continually presented regarding the Project's potentially significant impacts and the alternatives for mitigating those impacts. We again urge the lead agencies to prepare an adequate analyses of this important environmental, economic and social threat and mitigation options, and to recirculate the revised analyses for public review.

We also urge the lead agencies to:

- Develop and implement a pilot project for onshore transfer and treatment of all ballast water discharged from vessels using the Port, and investigate the development of a long-term plan to conduct onshore or in-Bay transfer and treatment of ballast water.
- Stay apprised of all emerging on-ship and on-shore technology for alleviation of the introduction of alien species into the Bay and formulate a plan to ensure implementation of these technologies as they become feasible.

Adequate mitigation measures must be adopted in order to avoid the significant impacts presented by the Project and related projects.

LIST OF ATTACHMENTS

Cohen, Dr. Andrew, San Francisco Estuary Institute, "Invasions Status and Policy on the U. S. West Coast" (May 1999).

Letter from Deborah Sivas, Stanford Environmental Clinic to Lt. Gen. Joe Ballard and Lt. Col. Peter Grass, U.S. Army Corps of Engineers (Jan. 6, 1999) (Sixty-Day Notice of Intent to Sue for Violation of Sec. 7 of the Endangered Species Act).

San Francisco Regional Water Quality Control Board, "Draft Exotic Species TMDL Workplan – Workload" (May 1999).

Staff Report from Steven Moore to Loretta Barsamian, Regional Water Quality Control Board, San Francisco Bay Region, "Exotic Species In The San Francisco Bay-Delta" (9/7/99).

Attachments to the Center for Marine Conservation/Baykeeper comment letter are on file with the Port of Oakland and can be reviewed at the Port offices at 530 Water Street Oakland, CA 94607 via appointment by calling (510) 627-1174.

RESPONSES TO COMMENTS ON REVISIONS TO THE FINAL EIR FOR THE OAKLAND HARBOR NAVIGATION IMPROVEMENT (-50 FOOT) PROJECT, SECTION A -- THE TODD SHIPYARD HISTORIC DISTRICT

The following are responses to the comments submitted by the City of Alameda and Henn & Etzel, Inc. (on behalf of Bay Ship & Yacht Co.) on Section A of the Revisions to the Final EIR, regarding the Todd Shipyard Historic District. The comment of the Center for Marine Conservation, et al. ("CMC"), does not address the Todd Shipyard Historic District. Because, pursuant to section 15088.5(f)(2) of the CEQA Guidelines, the EIR was recirculated, and comment was requested only as to the Todd Shipyard Historic District, the Port is not required by CEQA to respond to the CMC comment. The Port has, however, responded by letter to that comment. A copy of the Port's letter is attached to these Responses.

Response to Comment of the City of Alameda

The City of Alameda's written comment on the Revisions to Final EIR begins by summarizing some of its previous comments regarding Todd Shipyard. The comment then addresses the mitigation plan set forth in Section A of the Revisions to Final EIR. This Response addresses the City's comments on the mitigation plan.

First, the City asks how feasibility will be determined for the first Todd Shipyard mitigation measure described in the Revisions to Final EIR, which provides that existing ship repair working space at Todd Shipyard will be replaced "if feasible." The feasibility of replacing the existing ship repair working space is a function of many factors, including, but not limited to, consent of the property owners (the City itself and Alameda Gateway), concurrence by the current tenant, Bay Ship & Yacht Co., that the proposed replacement space is functional for ship repair, avoidance of any obstacle to navigation in Inner Harbor, the ability to obtain necessary permits from regulatory agencies, and cost. The Port looks forward to continuing to work with the U.S. Army Corps of Engineers ("Corps"), the City, Alameda Gateway, Bay Ship & Yacht Co., and the regulatory agencies to achieve a feasible plan for replacement of the existing Todd Shipyard ship repair space.

Second, the City requests that four mitigation measures be added to the list of five mitigation measures set forth in the Revisions to Final EIR. Addition of the requested mitigation measures is unnecessary because the five mitigation measures described in the Revisions to Final EIR are sufficient to reduce the Project's impact on the Todd Shipyard Historic District to a less-than-significant level. In addition, the Port responds individually to the City's four requested mitigation measures as follows.

a. The City's first requested mitigation measure is that the Port fund "a complete assessment of all structures" on the Todd Shipyard property. In fact, the Port and the Corps have already funded and conducted a complete assessment of all buildings and structures on the Todd Shipyard property; it was this assessment that led to the designation of the Todd Shipyard Historic District as eligible for listing on the National Register of Historic Places. The City further requests documentation and recordation of all Todd Shipyard structures according to

HABS/HAER standards. Such documentation is only required (and is provided for in the Revisions to EIR's third mitigation measure) for buildings and structures that will actually be affected by the Project. Documentation and recordation are not necessary for the majority of the buildings and structures in the Todd Shipyard Historic District, which will be left intact by the Project.

b. Second, the City requests that the Port fund a tour of the areas of Todd Shipyard that would be affected by the Project, for the benefit of the Alameda Historic Advisory Board "and other interested persons." Such a tour has now been conducted as part of the section 106 consultation process that will lead to the Memorandum of Agreement described in the Revisions to Final EIR (fifth mitigation measure). However, the tour does not in itself mitigate any impact of the Project. It would, therefore, be inappropriate to describe a tour as a mitigation measure in the EIR.

c. Third, the City requests that the Port include in the EIR a mitigation measure requiring Port funding and preparation of a preservation maintenance plan for the entire Todd Shipyard Historic District. As the Revisions to Final EIR (fourth measure) states, the Port is willing to participate in development of a preservation maintenance plan for the District. It would, however, be inappropriate for the Port to take on the entire responsibility for the plan as a mitigation measure for the Project, because most of the Historic District will be unaffected by the Project. If the Project is approved the Port and the Corps will, of course, continue to fund and prepare plans for mitigation of the impacts of the Project.

d. Fourth, the City requests that the Port present its findings from the first three requested mitigation measures to the Alameda Historic Advisory Board. The Port looks forward to continuing to work with the Alameda Historic Advisory Board as part of the section 106 consultation and Memorandum of Agreement process described in the fifth mitigation measure of the Revisions to Final EIR. The Port will continue to share with the Historical Advisory Board its detailed proposals for execution of the mitigation measures described in the Revisions to Final EIR. The City's fourth requested mitigation measure is, however, tied to its first and third requested measures; for the same reasons that those measures are unnecessary and inappropriate, so is the fourth.

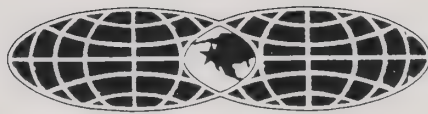
The City's remaining written comments address issues on which comment was not requested in the Revisions to Final EIR. These comments repeat comments that the City has previously submitted and to which the Port and the Corps have previously responded, so those comments will not be addressed here. The Port looks forward, however, to continuing to work with the City regarding the City's concerns over the South Training Wall and construction noise. Finally, the Port and the Corps have, at the City's request, included the potential for reuse of dredged material at the former NAS Alameda in the Project as an alternative in the event that reuse of dredged material for habitat enhancement at the Hamilton Wetlands Restoration and Montezuma Wetlands Restoration sites becomes infeasible.

Response to Comment of Henn & Etzel, Inc.

The Henn & Etzel comment states that Bay Ship & Yacht Co. is very supportive of the Revisions to Final EIR's first mitigation measure for Todd Shipyard impacts, which states:

If feasible, replace the ship repair working space (consisting of approximately 1,200 feet of linear space with adjoining deep water) that would be eliminated by the Project, so that it would be physically possible for ship repair operations to continue at the District.

As is stated in the response to the City of Alameda's comment, if the Project is approved, the Port will continue to work with Bay Ship & Yacht Co., the City, Alameda Gateway, the Corps, and the regulators to attempt to provide the ship repair working space described in this mitigation measure.



PORT OF OAKLAND

January 13, 2000

Ms. Linda Sheehan
Center for Marine Conservation
580 Market Street, Suite 550
San Francisco, CA 94104

SUBJECT: RESPONSE TO COMMENTS ON THE OAKLAND HARBOR
NAVIGATION IMPROVEMENT (-50 FOOT) PROJECT:
REVISIONS TO FINAL ENVIRONMENTAL IMPACT REPORT

Dear Ms. Sheehan:

Thank you for your comments on the document referenced above regarding the impacts of ballast water discharges. Although comments were not solicited on this topic because no new significant impacts or mitigation measures were identified, we welcome the opportunity to address this topic again. This response addresses the comments dated October 20, 1999 of several organizations, including the Center for Marine Conservation, the San Francisco BayKeeper, the Pacific Coast Federation of Fishermen's Associations, the Natural Resources Defense Council, the Environmental Defense Fund and Save San Francisco Bay Association. The commentors state that the Revisions and earlier analyses prepared by the Port (the draft and final EIR for the Berths Project and the draft and final EIS/R for the -50-Foot Project) fail to analyze or document adequately the volume of ballast water that would be discharged under the Berths Project or the -50-Foot Project. The commentors also state that the Revisions fail to address adequately certain variables affecting the risk that ballast water discharge would introduce exotic animal or plant species to the San Francisco Bay-Delta ecosystem, and routes of introduction of exotic species other than ballast water (including hull surfaces, sea chests, and anchor and anchor chains).

The commentors' letter on the Revisions raises no issues not already raised in their previous comments on the Berths Project EIR. Those comments were appropriately and fully responded to in the Responses to Comments on the Berths Project EIR. Because the Revisions conclude, based upon substantial evidence, that the -50-Foot Project will have no significant ballast water impact, there is no need for the same comments to be addressed again in the context of the Revisions to the -50-Foot Project EIR.

The Revisions, in Table 7, adjust the expected ballast water discharge volumes reported in the FEIS/R for the -50-Foot Project. Those volumes are calculated based upon two primary sources: (1) an analysis of vessel calls associated with the -50-Foot Project and the two Vision 2000 Projects, the Berths Project and the JIT Project (prepared by Jordan, Woodman, Dobson (JWD 1998, 1999), and (2) estimates of the typical ballast water discharge per ship, developed by Port environmental staff in consultation with naval architects and industry representatives. Supporting documentation appears in Appendix F to the FEIS for the Berths Project and in a subsequent study (sent by electronic mail to you in September 1999) entitled, "Ballast Water Management for Containerships; Implications for the Port of Oakland by Herbert Engineering Corp. The analysis of estimated ballast water discharges in the Revisions document, based upon the foregoing evidence, shows that the -50-Foot Project alone would substantially reduce the number of vessel calls and the volume of ballast water discharged per vessel call, compared to existing conditions. Therefore the Revisions conclude that the -50-Foot Project alone would cause no significant ballast water impact. Because the -50-Foot Project will reduce vessel calls and decrease the estimated volume of ballast water discharge, it would also have no cumulative ballast water impact.

Although an EIR must briefly indicate the reasons for concluding that an environmental impact is less than significant, it should omit detailed discussion of such impacts. The Revisions present sufficient evidence to support the conclusion that the -50-Foot Project will have no significant ballast water impact. There is no further requirement that the Revisions discuss the additional subjects raised by the commentors, regarding variables affecting the risk of introduction of exotic species.

However, as noted in the Revisions, the Berths Project if implemented independently of the harbor deepening project is expected to result in an increase in the volume of ballast water discharge of approximately 5 percent, and was determined in the Berths Project EIR to have a significant but mitigable ballast water impact. Appropriately, the Berths Project EIR, and the Responses to Comments received on that document, presented a detailed discussion of ballast water impacts, including all subjects contained in your letter on the Revisions.

The Berths EIR and Responses to Comments presented a thorough analysis of the change in volume of ballast water discharges under the Berths Project and related projects including the -50-Foot Project. The Berths EIR and Responses to Comments also discussed the effect on ballast water impacts of all variables mentioned by the commentors in their letter on the Revisions, including: (1) the relative speed of vessels that will use the Port; (2) the relative increase in the number of ships making the Port of Oakland their "first port of call" in the continental U.S.; (3) the ratio of export trade to import trade at the Port of Oakland; (4) the effect of discharges of ballast water originating in "biological hot spots"; (5) the effect of hull fouling:

Ms. Linda Sheehan

January 13, 2000

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and (6) discharges near recently disturbed areas. The Berths Project EIR and Responses to Comments also examined and recommended mitigation measures that would reduce project and cumulative ballast water impacts to less than significant levels, including a Port ordinance requiring ships calling at Port facilities to conduct ballast water exchange at sea for water that originates from locations other than the West coast of North America. That ordinance was adopted by the Board of Port Commissioners on June 15, 1999. Finally, the Berths EIR and Responses to Comments evaluated other mitigation measures, and determined that on-shore and/or in-bay ballast water treatment technologies are not currently feasible. Nonetheless, the Port has agreed to participate in two task forces studying the feasibility of on-shore treatment of ballast water, one sponsored by the San Francisco Estuary Institute and the other sponsored by the California Association of Port Authorities.

Thank you for your continuing interest in this issue. We look forward to continuing to work with you and the other stakeholders to address the invasive species issues.

Sincerely,



Jon Amdur

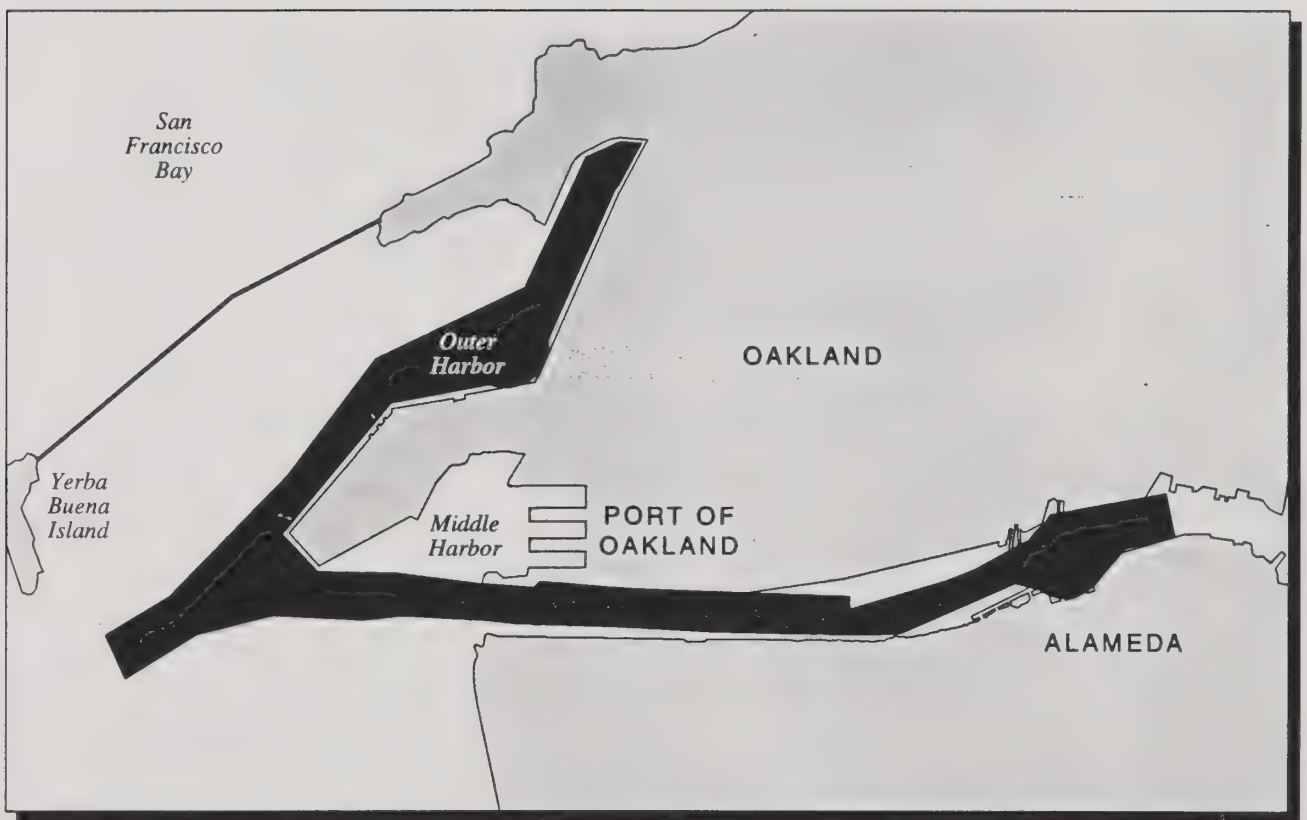
Environmental Assessment Supervisor

CC: Jody Zaitlin
Julie Jones
File

Oakland Harbor Navigation Improvement (-50 Foot) Project

Revisions to the Final Environmental Impact Report

SCH No. 97072051



Prepared by
Port of Oakland
State Lead Agency

SEPTEMBER 1999

Oakland Harbor Navigation Improvement (-50 Foot) Project

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Revisions to the Final EIR

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REVISIONS TO THE FINAL EIR ON THE OAKLAND HARBOR NAVIGATION IMPROVEMENT (50-FOOT) PROJECT

Introduction

This *Revisions to the Final EIR* adds to the May 1998 Final Environmental Impact Statement/Environmental Impact Report for the Oakland Harbor Navigation Improvement (-50 Foot) Project (50-foot Project FEIS/R; USACE and Port of Oakland 1998). The *Revisions to the Final EIR* has been prepared to update and correct information contained in the 50-foot Project FEIS/R and to provide updated alternatives for the 50-foot Project. This *Revisions to the Final EIR* is divided into two main sections:

1. **Section A** reports the eligibility of the Todd Shipyard for the National Register of Historic Places and the California Register of Historic Resources, and discusses the impact of the 50-foot Project on Todd Shipyard and mitigation measures for that impact.
2. **Section B** addresses other changes to the 50-foot Project and to the EIR, none of which raise any new significant impacts for the Project compared to what was analyzed in the May 1998 FEIS/R.

Section A is the only portion of the EIR that is being recirculated for public comment. The remainder of the document consists of clarifications and slight modifications that do not include any new impacts not previously discussed and analyzed.

SECTION A — THE TODD SHIPYARD HISTORIC DISTRICT

When the Draft EIS/R for the 50-Foot Project was circulated for public comment, the possibility that the Project would affect a potential cultural resource, the former Todd Shipyard in Alameda, was not identified. Commenters on the Draft EIR raised the possibility that the Project's effects on Todd Shipyard could be considered a significant impact on a cultural resource. The FEIS/R addressed that possibility and identified several mitigation measures to be applied in the event that a significant impact occurred. At that time, however, no determination had yet been made whether the former Todd Shipyard was culturally or historically significant.

Since the Draft and Final EIS/Rs were issued, the State Historic Preservation Officer (SHPO) has determined that Todd Shipyard is eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). In addition, ship simulation studies, inspections of the structures at the Todd Shipyard that may be affected by the Project, and discussions with the owners and lessees of the site have provided a clearer picture of the extent to which Todd Shipyard would be affected by the Project and of the feasibility of potential mitigation measures. Accordingly, a portion of section 4.5.2 ("Research Investigations and Results") and all of section 5.5.2 of the EIR are revised as follows. Sections 4.5.2 and 5.5.2 are recirculated for comment only as to the Todd Shipyard Historic District, pursuant to section 15088.5(f)(2) of the CEQA Guidelines.

4.5.2 Proposed Dredge Area

Research Investigations and Results

The majority of the available archaeological and architectural survey data for the Port area has been compiled as a result of cultural resources compliance requirements and the Oakland Cultural Heritage Survey (City of Oakland 1994) as well as for the Department of the Navy (EFA West) and the City of Alameda Planning Department. Seventeen separate cultural resources compliance reports and at least four Environmental Impact Statement/Reports include portions of the Port. The reuse/disposal areas are either currently permitted facilities or have been reviewed or are under review in other environmental documents (see Busby et al. 1997).

Six historic districts determined eligible for listing on the NRHP are within or near the Area of Potential Effect (APE). These are: (1) Naval Supply Center Oakland Historic District (NSCO); (2) Oakland Army Base Historic District; (3) Southern Pacific West Oakland Shops Historic District (U.S. Navy and Port of Oakland 1997a,b); (4) NAS Alameda Historic District on NAS Alameda (Woodbridge 1992); (5) Southern Pacific Railroad Industrial Landscape Historic District in Oakland (U.S. Navy and Port of Oakland 1997a,b); and (6) Todd Shipyard Historic District in the City of Alameda (USACE and Port of Oakland 1998). Finally, seven city blocks within and adjacent to the Port and four city blocks adjacent to the Port associated with the Route I-880 Replacement Project (FHWA and Caltrans 1991) each include a number of archaeological features evaluated as eligible for the NRHP under Criterion D. No other NRHP historic districts are present within or adjacent to the Port (Busby et al. 1997; USACE and Port of Oakland 1994; JRP 1996; Maniery et al. 1996).

Three individual historic properties eligible for the National Register of Historic Places were identified within or near the APE: (1) the Oakland Inner Harbor Jetties and Federal Channel (McCarthy and Lerner 1997; Mikesell 1996); (2) the USS Potomac; and (3) the Main Shop Building of the Todd Shipyard Historic District, a large reinforced concrete and steel frame structure built 1910-1911 for the Southern Pacific Company. No other individual properties potentially eligible for the National Register have been identified within the APE.

The general area centered on the Port of Oakland has been identified as possessing moderate potential for prehistoric cultural resources, although this conclusion was developed prior to the information derived from extensive cultural resources compliance research in the 1980s and 1990s (Quaternary Research Group 1976). No prehistoric sites, however, have been recorded in or adjacent to the Port. Early occupation may have been obscured by rising sea levels from 13,000 to 5,000 B.C., and the presence of extensive marshes and periodic flooding from 5000 B.C. onward appears to have limited prehistoric use. The majority of the Port is now within a filled area precluding the surface presence of prehistoric archaeological sites (Bache 1855; Thompson and West 1878; USGS 1899, 1915, 1942, 1980; Merlin 1977; U.S. Navy and Port of Oakland 1997a,b).

Research indicates that the Oakland Estuary was the location of many historic shipwrecks dating from the 19th century. In addition, many ships were abandoned in the eastern end of the Inner Harbor following the Gold Rush due to a decline in the maritime trade (USACE 1984). A Works Progress Administration-sponsored project to remove obstacles to navigation was undertaken in the Inner Harbor in the 1930s with the objective of clearing navigable waters of visible obstacles. No information is available on the removal of submerged vessels and it is possible, although very unlikely, that sunken vessels are present in the harbor (USACE and Port of Oakland 1994). Furthermore, dredging operations

and the construction of other harbor improvements conducted since the turn of the century within the channel and Inner Harbor have undoubtedly removed any submerged vessels or fragments.

Of the six historic districts and three individual historic properties described above, two are within or immediately adjacent to the footprint of the Oakland Harbor Navigation Improvement Project. The first, the Oakland Inner Harbor Jetties and Federal Channel, has been determined eligible for the NRHP. This resource consists of two parallel stone seawalls placed 750 to 1,000 feet apart at the entrance to the Oakland Inner Harbor. These jetties were a component of a plan conceived by Colonel G. H. Mendell, the San Francisco District Engineer from 1871-1895, for harbor improvements to the tidal inlet between Oakland and Alameda. At the time they were built, between 1874 and 1896, the jetties extended nearly 2 miles into the open waters of San Francisco Bay and defined the federal channel. Disposal of dredged material beginning in 1877 and continuing to the present, as well as extensive land fill projects initiated during World War II, have since created hundreds of acres of maritime-related landscape on both the north and south shores adjacent to the jetties. The jetties are owned by the Corps and have been determined eligible for the NRHP at the state level of significance under Criteria A and C. The second property, the Todd Shipyard Historic District in Alameda, is a district comprising 24 structures that has been determined to be eligible for the NRHP pursuant to Criteria A and C because of its part in the transportation history of the San Francisco Bay Area from 1910 — 1963.

Two other historic properties within or partially within the Project footprint have been determined not to be eligible for the NRHP. The first, located within the Port area in the City of Oakland, consists of marine facilities formerly associated with the Western Pacific Railroad mole and ferry system on the Oakland Estuary. These facilities have been determined not eligible for the NRHP (Wall and Delgado 1985; McCarthy 1997). Second, none of the properties associated with the Alameda Facility and Alameda Annex of the Fleet and Industrial Supply Center, Oakland (FISCO) were determined eligible for the NRHP and the facilities were not determined eligible as a district by the SHPO (JRP Historical Consulting Services 1996; Widell 1996).

5.5.2 Proposed Dredging

Project Impacts

The National Register-eligible South Training Wall/Jetty of the Oakland Inner Harbor Jetties and Federal Channel would not be affected by the dredging. No part would be removed, and previous geotechnical studies indicate that dredging would not destabilize the foundation of the South Training Wall/Jetty (USACE and Port of Oakland 1994). The National Register-eligible North Training Wall/Jetty would not be affected by the dredging from the proposed project (it would be demolished by dredging associated with the Port's Berth 55-58 project [see section 9.1.2 of the FEIS/R], which has been evaluated under separate environmental review).

The expansion of the Inner Harbor Turning Basin would, under all alignment options other than Option 7, result in the demolition of certain buildings and structures included in the NHRP-eligible Todd Shipyard Historic District. (Alignment Option 7 and the other seven alignment options are described in the FEIS/R; see the section entitled "Size and Locations Considered for the Inner Harbor Turning Basin," FEIS/R Volume 2, beginning on page 2-7.) As currently envisioned, excavation and dredging for the Inner Harbor Turning Basin, coupled with restructuring of the shoreline to allow continued ship repair operations, may require the demolition or relocation of up to nine buildings and structures located in the District, out of a total of 24 contributing and non-contributing structures. The buildings and structures that would be affected are listed below and are identified on Figure 1.

1. Concrete head house (No. 14 on Figure 1);
2. Pier (No. 15);
3. Pier (No. 16), which does not contribute to the District's eligibility for the NRHP;
4. Wet basin – open water that will be deepened (No. 17);
5. Sheet metal shop (No. 18);
6. The remains of a ship way (No. 22)
7. The remains of ship way (No. 23)
8. Wharf (No. 26), which does not contribute to the District's eligibility for the NRHP ; and
9. Crane (No. 27).

The removal of the nine buildings and other structures described above would constitute a significant impact.

Mitigation Measures

- If feasible, replace the ship repair working space (consisting of approximately 1,200 feet of linear space with adjoining deep water) that would be eliminated by the Project, so that it would be physically possible for ship repair operations to continue at the District.
- If feasible in terms of the physical condition of the buildings and structures, the cost of rehabilitation, and the consent of property owners, relocate one or more of the affected contributing buildings and structures within the Todd Shipyard Historic District and rehabilitate in accordance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings*.
- Document buildings and structures prior to any required demolition, pursuant to consultation with the Pacific Coast Basin Systems Support Office, National Park Service, San Francisco. At a minimum, documentation and recordation would meet the standards of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER).
- Work with the City of Alameda to explore the development of a preservation maintenance plan for the historic district. The objective of this plan would be to prevent continued loss of contributing elements, to guard against erosion of historic fabric of the buildings and structures that may be modified, and to salvage significant architectural elements from buildings and structures that are scheduled for demolition.
- Implement all mitigation measures delineated in a Memorandum of Agreement among the U.S. Army Corps of Engineers, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation; with the Port of Oakland and the City of Alameda as Invited Parties.

With implementation of the mitigation measures that will be set forth in the Memorandum of Agreement described above, the Project's impact on the Todd Shipyard Historic District will be less than significant.

SECTION B — CORRECTIONS AND UPDATES TO THE EIR

This Section B is organized as follows. Section 1 provides an overview of the corrections and updates to the Project. Section 2 describes the added alternatives in detail, and Section 3 presents the updated information and revised impact analysis. Section 4 provides the conclusions.

B.1 OVERVIEW OF CORRECTIONS AND UPDATES

Since the 50-foot Project FEIS/R was prepared (May 1998), three types of new information have become available. First are corrections in the information presented in the FEIS/R's description of air quality and noise impacts from project construction. Second are updates to the FEIS/R's discussions of ballast water discharges and mitigation measures for operational air quality impacts. The third category consists of improved sediment characterization data and improved information regarding the likely disposition of dredged sediments (including information pertaining to rehandling, reuse, and disposal). This information has led to the identification of two new project alternatives described in section B.2 below.

None of the new information analyzed in Section B reveals any significant environmental impact that was not already identified in the FEIS/R. In several instances, the new information demonstrates that impacts discussed in the FEIS/R would be less significant than previously anticipated.

B.2 ALTERNATIVES F10 AND F11

The 50-foot Project FEIS/R identified Alternative F2 as the "preferred alternative." Under Alternative F2, approximately 12.8 million cubic yards (mcy) of dredged material would be dredged and disposed of and reused as follows:

0.5 mcy to Vision 2000 Upland
7.0 mcy to Middle Harbor Enhancement Area (MHEA)
5.2 mcy to Hamilton Wetlands Restoration Site
0.1 mcy to Various Landfills
12.8 mcy Total

At the time of publication of the 50-foot Project FEIS/R, final sediment suitability determinations by the regulatory agencies for the material proposed to be dredged had not been completed. The project sponsors therefore decided that the FEIS/R should include conservative assumptions regarding the amount of dredged material that might be contaminated. Therefore, of the approximately 12.8 mcy to be dredged, the FEIS/R assumed that a total of approximately 2.1 mcy could be: (1) "wetland non-cover material," i.e., material that could not be used at the surface of a wetland but could be used to create wetlands if capped with a minimum of 3 feet of "wetland cover" quality material; (2) contaminated material suitable for use as construction fill; or (3) more contaminated material that would require disposal at a landfill. Preferred Alternative F2 evaluated a reuse/disposal scenario that included up to 1.5 mcy of wetland non-cover material used as confined fill for the MHEA, up to 0.5 mcy of contaminated material used as construction fill at the Vision 2000 Upland area, and up to 0.1 mcy of the most contaminated material disposed of at landfills. The FEIS/R studied the impacts of all of these disposal and reuse options.

Since the FEIS/R was completed, developments have occurred that affect the identification of the "Selected Alternative." First, the project sponsors have decided to evaluate an additional alternative in which dredged material is reused at both the Hamilton and Montezuma wetland restoration projects, in addition to alternatives that reuse the dredged material at only one or the other site, assuming both reuse sites are ready to accept material from the 50-foot Project at the required time. This approach maximizes potential habitat benefits by supporting the initial development of tidal and seasonal wetland habitats at two locations, and improves the flexibility of the construction process.

Second, the sediment testing has continued and the improved sediment characterization data have revealed that of the approximately 12.8 mcy proposed to be dredged, no more than 0.7 mcy (rather than up to 2.1 mcy) would consist of wetland non-cover and contaminated material. The project sponsors believe that this 0.7 mcy figure remains a conservative estimate of the actual volume.

Third, after consultation with regulatory agencies and environmental organizations, the project sponsors have decided that although reuse of wetland non-cover material to fill the MHEA poses no threat of environmental harm, this material shall not be reused at that site. Only material considered suitable for unconfined aquatic disposal (SUAD) would be used in the MHEA. This means that the wetland non-cover material originally proposed for reuse at the MHEA must now be placed at one or more of several alternate locations, including Montezuma Wetlands Restoration, Vision 2000 Upland, or Various Landfills.

Fourth, the project sponsors have determined that it may be necessary to send more than 100,000 cy of the contaminated material to landfills. While it currently appears that the existing reuse sites will be able to accept all of the material that is not contaminated enough to require landfill disposal, some uncertainties remain. These uncertainties include the ultimate availability of the Montezuma project to accept wetland non-cover material, and the ability to coordinate reuse of the dredged material from the 50-foot Project with the development of the Vision 2000 area. Thus, by analyzing the disposal of up to 700,000 cy at a landfill, the potential worst-case impacts associated with landfill disposal will have been evaluated.

Finally, the construction timing may also affect the location of the rehandling facility for dredged sediment requiring upland reuse or disposal. The FEIS/R indicated that the rehandling facility would be located at the Berth 55 Fill Area (on newly-created fastland). Since then, it has become apparent that the currently used and permitted Berth 10 rehandling facility, constructed by the Port of Oakland for a prior terminal construction project, would be available for use in construction of the 50-foot Project. The Berth 10 rehandling facility has a capacity of 30,000 cy in two 15,000 cy cells, compared to the 100,000 cy rehandling facility that would have been constructed at the Berth 55 Fill Area. If the Berth 10 rehandling facility is used, the duration of rehandling activities would increase, and traffic and equipment use patterns would change relative to the Berth 55 Fill Area rehandling facility analyzed in detail in the FEIS/R. The supplemental analysis for the Berth 10 rehandling facility is reflected in the analyses conducted as part of this *Revisions to the Final EIR*.

With these considerations in mind, the project sponsors have identified two new project disposal alternatives to be added to the 15 project alternatives identified and evaluated in the FEIS/R. The new alternatives are F10 and F11 (numbered to follow the last Option F alternative identified in the FEIS/R, Alternative F9). The sediment distribution for the two new disposal alternatives is shown below.

Alternative F10

7.0 mcy to MHEA
2.5 mcy to Hamilton Wetlands Restoration Site (minimum)
2.9 mcy to Montezuma Wetlands Restoration(including 0.3 mcy of non-cover quality material)
0.4 mcy to Various Landfills (all construction fill quality and contaminated material) <i>or</i>
0.1 mcy to Various Landfills and 0.3 mcy to Vision 2000 Upland
<u>12.8 mcy Total</u>

Alternative F10 corresponds to the Locally-Preferred Plan (LPP)/Selected Plan presented in the Final Revised Feasibility Study for the proposed Project (USACE and Port of Oakland 1999). Alternative F10 is thus the preferred alternative.

Alternative F11

7.0 mcy to MHEA
5.1 mcy to the ocean
0.7 mcy to Various Landfills
<u>12.8 mcy Total</u>

Alternative F11 represents the least-cost alternative.

Finally, under all disposal alternatives (including new Alternative F10) that include the reuse of clean dredged material at Hamilton or Montezuma, it is possible that if Hamilton and/or Montezuma are not available at the appropriate time, some of the clean dredged material would be stockpiled at the former NAS Alameda for reuse in future development there. The impacts of transporting dredged material to NAS Alameda were studied in the FEIS/R for the 50-foot Project and are not reanalyzed here.

B.3 SUPPLEMENTAL ANALYSIS

The corrections, updates, and new Alternatives described above merit supplemental discussion of certain aspects of Air Quality, Biology, Hazardous Materials and Contaminated Wastes, Hydrology, Noise, Transportation, and Ballast Water impacts. No other resource areas addressed in the 50-foot Project FEIS/R are affected by these changes.

B.3.1 Air Quality

Revised calculations of emissions from construction activities for each of the alternatives analyzed in the FEIS/R, plus calculations of emissions from construction activities for the two additional alternatives described in this document, are presented in Table 1.

Emissions from previously identified alternatives have been recalculated because assumptions regarding emissions from tugs have been refined since publication of the FEIS/R. These recalculations show that emissions from the previously studied alternatives (Alternatives F1 through F9 and B1 through B6) are all lower than reported in the FEIS/R. In addition, emissions for the two project alternatives have been added that may result in 400,000 to 700,000 cy of dredged material being trucked to landfills, as opposed the 100,000 cy that was studied in the FEIS/R. The emissions shown in Table 1 reflect the use of electric dredge, reformulated fuel and retardation of injection timing at page 5.1-11 (Volume II) of the May 1998 FEIS/R. The FEIS/R's conclusion that emissions from construction activities will be less than significant remains unchanged.

For the operations phase of the project, air quality impacts of Alternatives F10 and F11 would be the same as the impacts of the 15 alternatives previously studied.

Tug Emissions

Construction emissions for each alternative have been recalculated based on refined information about the following: (1) tugboat load factors, (2) loaded and unloaded travel time to and from the dredged material disposal/reuse locations, (3) tugboat horsepower size required for the various disposal/reuse destinations, and (4) scow capacity for the various disposal/reuse locations.

The FEIS/R calculated tug emissions based on a load factor of 80 percent regardless of whether the barge was loaded or unloaded. The revised calculations correct this assumption to reflect an 80 percent load factor when the barge is loaded and a 20 percent load factor when the barge is unloaded. The revised calculations also reflect the fact that the barge loads must now be smaller than previously assumed (to address overflow concerns) so that there will be more barge trips, and the engine size for tugs traveling to SF-DODS will increase from 1,800 hp to 3,000 hp. The revised data is provided in Table 2. Table 2 also shows, by destination, the number of trips that would be required for a given amount of dredged material.

Landfill Volumes

Disposal of 400,000 to 700,000 cy of dredged material (under Alternatives F10 and F11, respectively) at the Altamont, Redwood, or Vasco Road landfill would produce more emissions than disposal of 100,000 cy of dredged material at the same landfills. The increase in emissions would not be in direct proportion to the amount of material disposed because of changes in operating conditions and processing times assumed for the rehandling facility since the time of the FEIS/R preparation. In particular:

- Larger 20-cy end-dump trucks would be used;
- The number of truck trips would be 75 per day (on average during the times when sediment is being off-hauled);
- The facility hours of operation would increase from 6 hours per day to 10 hours per day;
- The number of days of facility operation may increase from 334 to up to 1075 days to account for days when material drying would be the only activity occurring; and
- The number of days that trucks would be hauling material to the landfill may increase to up to 467 days.

Tables 3 and 4 show comparisons between the equipment and time involved in this new scenario compared to those studied in the FEIS/R.

Mitigation for Operational Air Quality Impacts

The FEIS/R for the 50-foot Project, issued in May 1998, stated that Project operations would cause a significant air quality impact because emissions would exceed Bay Area Air Quality Management District ("BAAQMD") significance thresholds for ROG, NO_x, SO_x, and PM₁₀ (Final EIR, pages 5.1-14 to 5.1-15). These emission levels were predicted because the FEIS/R conservatively assumed that the 50-foot Project would be responsible for large increases in the volume of cargo traveling through the Port, and therefore responsible for the vessel, yard equipment, train, truck, and employee vehicle emissions necessary to handle that increased cargo volume (FEIS/R, pages 5.1-12 to 5.1-15). The FEIS/R went on to identify eight mitigation measures that, the EIR concluded, would not be sufficient to reduce the air quality impact to a less than significant level (FEIS/R, pages 5.1-17 to 5.1-18).

Since May 1998, the Port has completed two undertakings that affect the FEIS/R's analysis of air quality impacts and mitigation measures. The first was a study of various potential Port development projects that analyzed how each of the projects would contribute to growth in cargo movement through the Port (JWD 1998, 1999). The study found, that if the only project completed were the 50-foot Project, the Port's cargo throughput capacity would increase by only about 1 percent per year. It was the proposed Berths 55-58 Project that contributed the most to increased cargo throughput.

The results of the cargo study were crucial to the Port's next major undertaking, the EIR for the Berths 55-58 Project. Because the cargo study showed that the Berths 55-58 Project was the greatest contributor to increased cargo throughput, the analysis in the Berths 55-58 Project EIR allocated responsibility to *that* project for the same vessel, yard equipment, train, truck and employee vehicle that had previously been described in the 50-foot Project EIR. Thus when the Berths 55-58 Project EIR was completed, the emissions caused by increased cargo throughput at the Port had been double-counted, with both the 50-

1 foot Project and the Berths 55-58 Project taking responsibility for the same emissions and the same
2 significant air quality impact.

3 Pursuant to a consent decree with West Oakland Neighbors, the Port conducted a far more exhaustive
4 study of potential air quality mitigation measures for the Berths 55-58 Project EIR¹ than had been
5 conducted for the 50-foot Project — or, indeed, for any other development project in California history
6 so far as the Port is aware. This effort has been highly praised both by the local community and by
7 BAAQMD. It led to the adoption of a \$9 million air quality mitigation package — the Vision 2000 Air
8 Quality Mitigation Program — that includes all cost-effective air quality mitigation measures.

9 Because the Vision 2000 Air Quality Mitigation Program addresses the same emissions that were
10 addressed in the 50-foot Project FEIS/R, and is based on a more exhaustive analysis, the Program
11 supersedes some of the mitigation measures identified in the 50-foot Project FEIS/R. Three measures
12 identified in the 50-foot Project FEIS/R have been bettered by the Port's commitments in the Vision
13 2000 Air Quality Mitigation Program. With respect to heavy-duty trucks, the FEIS/R only calls for the
14 Port to support "regional programs" for exhaust treatment retrofits and engine replacements (Measures 4
15 and 5, FEIS/R page 5.1-17). The Vision 2000 Air Quality Mitigation Program, on the other hand,
16 commits the Port both to spend at least \$1.5 million of its own money on such retrofits and/or
17 replacements, and to seek further funding from outside agencies and programs. Similarly, whereas the
18 FEIS/R suggests that the Port "participate in development of a program" to retrofit vehicle fleets used in
19 the Port area (Measure 6, FEIS/R page 5.1-17), the Port has now committed to spend \$700,000 on
20 replacement of diesel engines in AC Transit buses that operate largely in the local area.

21 Four more of the air quality mitigation measures identified in the 50-foot Project FEIS/R are already in
22 place. Measure 1 calls on the Port to design shoreside facilities to minimize vehicle idling and vehicle
23 miles traveled within the Port area. The Port has done this in the design of both the Berths 55-58 Project
24 and the proposed JIT Project. Measure 2 calls on the Port to encourage tenants to retrofit and operate
25 low- or zero-emissions off-road light and medium duty vehicles. Although the tenants' existing vehicles
26 contribute very low emissions compared to other emissions sources operating at the Port, the Port has,
27 nevertheless, already begun to encourage tenants to operate lower-emissions vehicles. Measure 7 states
28 that the Port should consider paving unpaved roads and parking lots in the maritime area of the Port. The
29 plans for both the Berths 55-58 and the JIT include paving all roads and parking lots. Measure 8, calling
30 for street sweeping and cleaning at regular intervals in the Port area and the West Oakland area, is
31 already being implemented by the Port for the Port area and by the City of Oakland for the West Oakland
32 area.

33 Finally, the extensive air quality mitigation analysis conducted for the Berths 55-58 Project EIR reveals
34 that the one remaining mitigation measure proposed in the FEIS/R for the 50-foot Project, Measure 3,
35 would not be cost-effective. As is stated above, light and medium-duty vehicles operated by Port tenants
36 at and near the Port contribute very little to the emissions generated in the area, so the cost-effectiveness
37 of retrofitting such vehicles is very poor (see Measure 3, FEIS/R page 5.1-17). For example, the Berths

¹ Also pursuant to the consent decree, the study of mitigation measures and the resulting mitigation program applied to the JIT as well as to the Berths 55-58 Project.

55-58 EIR reported that if all 106 tenant maintenance vehicles were replaced with zero-emissions vehicles, at a cost of \$5.2 million, the emission reduction would be only 0.5 ton of NOx per year.

Based on this analysis, the FEIS/R for the 50-Foot Project is revised as follows. Measures 1, 2, and 7 are retained as written. Measure 3 is deleted as infeasible because of its low cost-effectiveness. Measures 4, 5, and 6 are deleted because they were already adopted as part of the Berths 55-58 Project. Measure 8 is revised to read, "Continue program of street sweeping and cleaning at regular intervals in Port area."

B.3.2 Biology

The increase of landfill disposal quantities from 100,000 cy to 400,000 or 700,000 cy, as described in Alternatives F10 and F11, respectively, would not affect biological resources. The material would be taken to existing landfills where sensitive species or habitats would not be affected. Consistent with the evaluation presented in the 50-foot Project FEIS/R, biological impacts from landfill disposal of dredged material would remain insignificant.

Alternative F10 includes the reuse of dredged material at both the Hamilton and Montezuma wetland restoration sites, whereas the FEIS/R alternatives included one or the other, but not both. This new alternative uses volumes of sediment within the ranges previously evaluated in the FEIS/R, although not with the two project sites in combination. The success of both projects depends on a reliable source of sediment so that restoration can be planned and carried out in a timely manner. Assuming both restoration/disposal projects are permitted and available for use concurrent with the Port's need for disposal sites, the Port's use of both sites in combination would have added benefits by facilitating restoration efforts at both sites, rather than at one to the exclusion of the other. In this respect, relative to other alternatives evaluated in the FEIS/R, Alternative F10 would maximize the beneficial reuse of dredged materials for the restoration of tidal and seasonal wetlands and shallow subtidal habitat.

B.3.3 Hazardous Materials and Contaminated Wastes

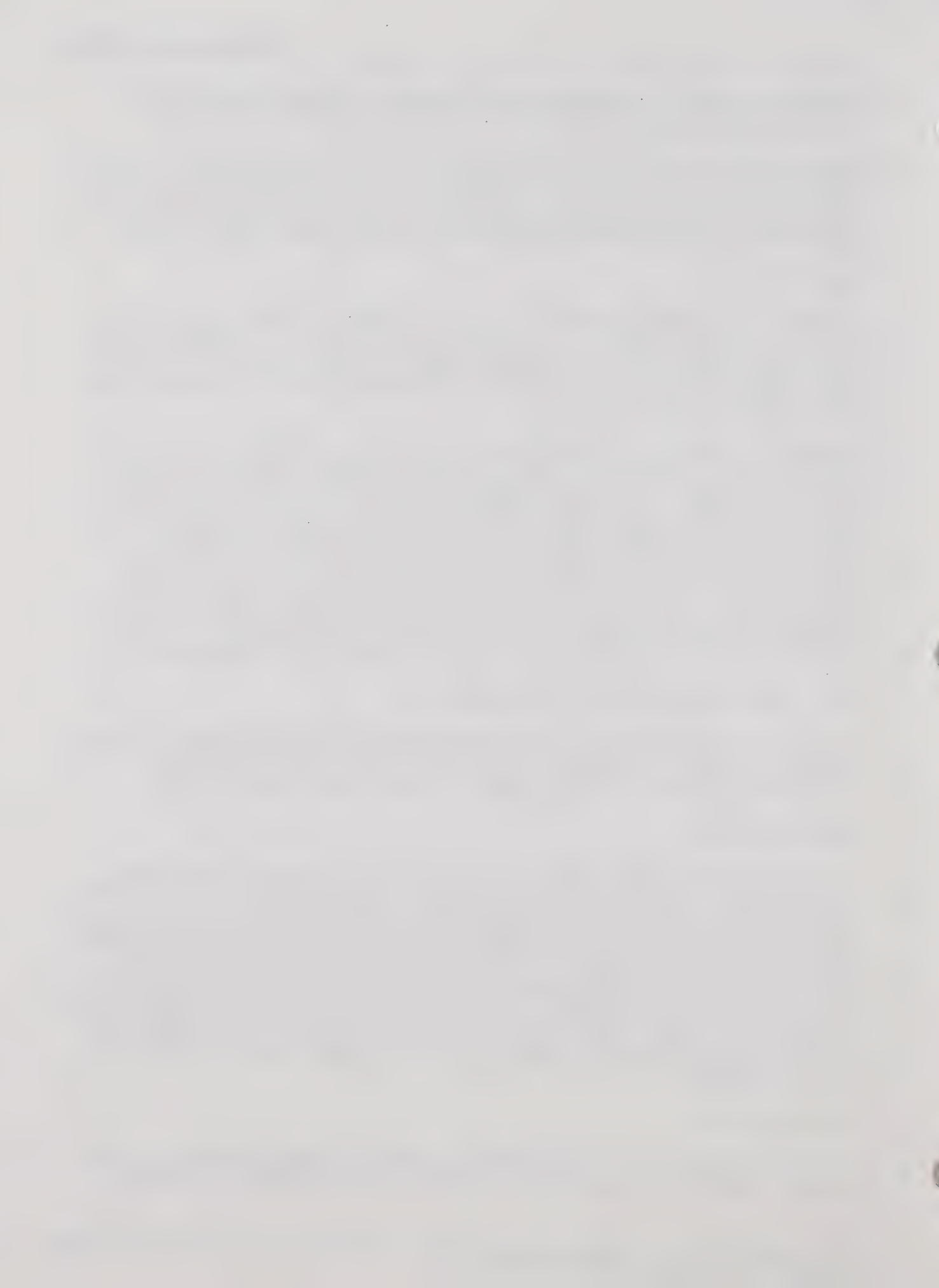
The only new potential hazards arise from the increased volume of dredged material that may be hauled to a landfill. This material will require drying prior to being off-hauled. The potential impacts associated with the increased volume of material to be dried and off-hauled are described below.

Exposure of the Public

As described in Appendix Q of the FEIS/R (Volume II), potential exposures to all receptors except rehandling facility workers were evaluated assuming a 4-year exposure duration. This 4-year duration was based on the entire duration of the project, instead of the actual period of time that sediment would most likely be transported. Based on the current information, the transport of contaminated sediments to landfills would occur over a period of up to 3 years, rather than the 4 years evaluated in the FEIS/R. During this time, there would be a very slight risk of a contaminated sediment release if a truck carrying the materials were involved in an accident. The FEIS/R evaluated the potential risk associated with this type of release, and concluded that the potential impact was less than significant. The potential impact remains less than significant even if the quantity transported to a landfill increases from 100,000 cy to 400,000 or 700,000 cy.

Exposure of Workers

The increased transport of material to a landfill would increase the duration of exposure for workers handling the material (i.e., rehandling facility workers and truck drivers hauling the material to the



landfill). The FEIS/R evaluated potential exposures to truck drivers assuming a 4-year exposure duration, thus the increase in sediment rehandling would not affect the potential exposures to truck drivers. The only change in exposure assumptions resulting from the increase in the quantity of dredged material off-hauled to a landfill is the change in exposure duration for rehandling facility workers. The calculations in Appendix Q assumed that 100,000 cy of dredged material would be transferred through a rehandling facility. The estimated duration of these rehandling activities was up to 6 months. The currently proposed scenarios assume that 400,000 to 700,000 cy of dredged sediment would be transferred through the rehandling facility. This increase in dredged material requiring rehandling increases the duration of rehandling activities to as much as 3 years. (The increase in sediment rehandling does not correlate directly with the time required to process 100,000 cy because the overall rate of transfer of material through the rehandling facility has increased slightly.)

Because the previous analysis assumed that the most contaminated material would be transferred through the rehandling facility, the increase in dredged material rehandling duration has only a very small impact on the overall risk to rehandling facility workers. As stated in Appendix Q, if the worst-case material from the Inner Harbor Turning Basin remains in the rehandling facility for more than 90 days, a potentially significant impact could result. The current information indicates that the longest period that the most-contaminated material would remain in the rehandling facility is 75 days. This estimate is based on the total quantity of the most contaminated material (20,000 - 30,000 cy; EVS 1998) and the estimated cycle time for both cells in the rehandling facility. Thus, the potential risks associated with handling the most contaminated material are less than significant due to the small quantity of the material.

The potential risk associated with other sources of dredged material increases linearly with the duration of rehandling activities; thus, for the maximum duration proposed, the potential risk increases by a factor of up to 7.0 compared to that calculated in Appendix Q. A 7-fold increase in potential risk to rehandling facility workers could result in the cumulative risk for the duration of the dredging activity potentially slightly exceeding 1×10^{-6} . The potential impacts can be mitigated to less than significant using the mitigation measures described in Appendices Q and R of the FEIS/R. No new mitigation measures are required.

B.3.4 Hydrology

Water quality impacts might, absent mitigation, be affected by the increase in landfill disposal to between 400,000 and 700,000 cy. This increase would increase the use of the Berth 10 rehandling facility, as described under "Hazardous Materials and Contaminated Wastes" above. However, the permit for the Berth 10 rehandling facility contains mitigations that address water quality concerns. Implementation of these mitigations makes use of the facility acceptable to regulatory agencies and would ensure that extended use of the Berth 10 facility would not cause any significant water quality impact.

The mitigation measures that were identified for the rehandling facility at the Berth 55 Fill Area would apply as long as that facility is in use. There would be no new impacts as a result of increasing the volume of material transferred through the rehandling facility.

B.3.5 Noise

The analysis of construction noise for the 50-foot Project has been updated to reflect the following six changes that have occurred since the FEIS/R was completed:

1. Electric dredges, originally recommended as mitigation measures, are now proposed as part of the project itself.
2. A better understanding of the use of tender boats and tugs associated with dredges, along with direct measurement of tender boat noise, has led to adjustments in the projections of noise from dredging activities.
3. The changes in tug sizes, load factors, and trip distribution for transportation of dredged material to Hamilton, Montezuma, and SF-DODS, described above under Air Quality, have been considered, but do not significantly affect projected noise levels.
4. The proposed increase in the off-haul of contaminated dredged material to landfills would not increase daily truck trips or the associated noise effects.
5. The former NAS Alameda Officers Housing was unoccupied at the time of the original noise analysis. Some of the homes have since become occupied. Accordingly, noise measurements have been taken at the Officers Housing to reflect current ambient noise conditions.
6. The Port's noise analysis for the proposed Berths 55-58 Project employed several assumptions and methodologies that differed from those used in the 50-foot Project FEIS/R. The noise analysis for the 50-foot Project has been brought into conformity with the Berths 55-58 Project noise analysis in the following areas:
 - Barrier attenuation from the Cypress Freeway and associated soundwalls has been reduced to 6 dBA from the 15 dBA used in the 50-foot FEIS/R, increasing the noise that is assumed to reach West Oakland; and
 - Pile driving noise is now estimated in L_{eq} as well as L_{max} , allowing more direct comparison of pile driving noise to Oakland Noise Ordinance standards.

Figure 2 shows the noise sensitive receptors.

Project Impacts

As a result of the changes in the project as well as updated adjustment factors and ambient noise levels, the project noise analysis for construction has been revised (see Table 5). These revisions show that construction noise from the 50-foot Project still would have no significant noise impact in West Oakland or on Yerba Buena Island.

The revisions also show that significant impacts on Alameda Island, as measured under Oakland Noise Ordinance standards, would be reduced, and those that did occur would require less mitigation to reach a less-than-significant level, than was reported in the FEIS/R. Thus the sensitive receptors requiring mitigation would be the Mosley Avenue neighborhood (Coast Guard Housing) which requires mitigation of pile-driving noise emanating from the Alameda Gateway vicinity on the south side of the Inner Harbor Turning Basin. As measured by the Oakland Noise Ordinance standards, no significant noise impacts would remain after mitigation. This is a change from the FEIS/R, which reported that impacts at four to eight residential units on Mosley Avenue would remain significant after mitigation. Construction noise impacts on Alameda would remain significant and unmitigable only because dredging is proposed to occur at hours that conflict with the City of Alameda Noise Ordinance.

Cumulative Impacts

The cumulative impacts analysis has been revised to take into account both the changes in the 50-foot Project noise analysis and the most recent information regarding construction noise from the proposed Berths 55-58 and Joint Intermodal Terminal (JIT) projects (see Table 6). In West Oakland, cumulative noise levels would exceed the nighttime standard. This exceedance is attributable to the JIT project, which is the closest to the West Oakland neighborhood. Implementation of the noise control measures that were adopted as part of the JIT Final EIR (Port of Oakland 1999) would reduce the combined noise levels sufficiently to comply with Oakland noise standards.

In Alameda, the mitigation of pile-driving noise on the south side of the Inner Harbor Turning Basin, described above, will avoid any significant cumulative impact at Mosley Avenue or the Former NAS Alameda Officers Housing.

The Enlisted Bachelors Housing at former NAS Alameda is currently unoccupied. If that housing becomes occupied for residential uses by the time construction of the 50-foot Project begins, mitigation may be required to avoid a significant cumulative impact. On weekend days, mitigation consisting of controls on pile-driving noise on the south side of the Inner Harbor Turning Basin (part of the 50-foot Project); controls on earth-moving equipment and pile drivers for the proposed Berths 55-58 Project, and controls on bulldozer noise at the potential former NAS Alameda stockpile site would be more than sufficient to mitigate cumulative impacts to less than significant. At night, noise controls on earth-moving equipment and pile drivers for the Berths 55-58 Project would be more than sufficient to avoid any cumulative impact at the Enlisted Bachelors Housing.

Thus, the changes in assumptions and analytical methods set forth here result in little change from the results set forth in the FEIS/R, but demonstrate that several noise impacts from construction are less significant than previously reported.

B.3.6 Transportation

Ground Transportation

Of the project changes described in this document, only the changes that affect the volume of material going to the various landfills would affect ground transportation.

Increasing the volume of material that would be taken to a landfill would not increase daily traffic beyond that described in the FEIS/R (in fact, if the Berth 10 rehandling facility is used, daily truck trips would be greatly reduced), but would extend the duration of dredged material processing. For Alternative F10, material would be hauled intermittently over approximately 20 months. For Alternative F11, the hauling period would be extended to about 2.9 years. The traffic generated by material hauling operations would be limited by the throughput of the Berth 10 rehandling facility. The total project impacts from construction activities would remain less than significant with mitigation.

The operations phase of Alternatives F10 and F11 would, like the previously studied alternatives, result in significant level-of-service (LOS) impacts at certain intersections. Because the only change associated with the new alternatives is a change in construction phase activities, operations impacts are the same as for all other "action" alternatives. These impacts would be less than significant with the implementation of the mitigation measures previously identified in the FEIS/R. Cumulative LOS

impacts on Bay Area freeways would be potentially significant. Although the project's contribution to those impacts would be minimal, this impact remains identified as significant and unmitigable.

Vessel Transportation

Impacts on vessel transportation from Alternatives F10 or F11 would remain unchanged from those originally analyzed in the FEIS/R.

B.3.7 Ballast Water

This revision to the ballast water analysis focuses on the assignment of vessel calls to the 50-foot project. The ballast water analysis in the 50-foot FEIS/R was based on the Port's estimate of increases in vessel calls associated with all of the Port's proposed new maritime projects as projected at the time the FEIS/R was published. Subsequently, the Port recognized that allocating all of the vessel calls to the 50-foot project was inconsistent with the container cargo allocation analysis² that formed the basis for other components of the project analysis. The container cargo allocation analysis was developed by Jordan, Woodman, Dobson (JWD 1997). The Port therefore retained JWD to expand their analysis to include vessel calls (JWD 1999). The JWD analysis estimated the vessel calls associated with each maritime project individually and cumulatively.

Table 7 shows the revised estimated ballast water discharge from the 50-foot Project if only the future vessels attributable to the 50-foot Project (JWD 1998) are included in the calculations. Table 7 is a revision of Table 1 in FEIS/R Volume V, Appendix X, page X-8, line 32. The other table numbers referenced in Table 7 refer to tables in the FEIS/R.

Table 7 shows that the total estimated ballast water discharge in the year 2010 with the 50-foot Project would be 1,705,000 metric tons; this volume was reported as 3,256,000 metric tons in Table 1 in the ballast water analysis in the FEIS/R (Volume V, Appendix X, page X-8) when all the future ship calls attributable to all the Port's planned maritime projects were considered. With the 50-foot Project by itself, the number of vessel calls is reduced substantially. Not only will the vessel fleet continue to modernize (as is reflected in the "without Project" vessel mix shown in Table 7), but the deeper channels will allow the shipping companies to use the largest, most efficient vessels when calling on Oakland. Thus, under the Project-only condition, the total number of vessel calls drops from 1,630 to an estimated 973, and the percentage of modern vessels (those discharging an estimated 1,000 metric tons of ballast water per call, rather than 4,000 metric tons as is the case for the older Panamax vessels) increases from approximately 10% of the total vessel calls to 75% of the total vessel calls. These changes in the type of vessels and the number of vessels account for the anticipated substantial reduction in ballast water discharges. This reduction in discharges demonstrates that the 50-foot Project would not cause a significant impact from ballast water discharges.

² The container cargo allocation analysis was designed to distribute the total project container growth resulting from the 50-foot Project and the two Vision 2000 projects (Berths 55-58 Project and JIT Project) among the three projects to allow accurate analysis of potential environmental impacts associated with each project individually.

1 The remainder of the description of the ballast water issue, as contained in the FEIS/R (see Volume V,
2 Appendix X, page X-6, line 22 through page X-11, line 10) still applies.

3 Using the JWD (1998) estimates of vessel calls, the Port estimates that implementation of the related
4 Berths 55-58 project (without channel deepening) could increase the volume of ballast discharges
5 associated with vessels calling on the Port by approximately 5 percent over existing levels. The Port has
6 committed to mitigate the impacts of its Berths 55-58 project by adopting an ordinance requiring ships
7 calling at Port facilities to conduct ballast water exchange at sea. This ordinance is modeled on a
8 regulation currently in effect at the Port of Vancouver, Canada. It was adopted by the Board of Port
9 Commissioners on June 15, 1999. By flushing ballast water from distant ports out of their ballast tanks
10 in the open ocean, ships leave potentially invasive species in the ocean (to which they are not adapted,
11 and in which they are unlikely to survive). The ships then enter the Port carrying seawater that is largely
12 free of species likely to survive in nearshore and estuarine environments. The Port's ordinance requires
13 oceanic ballast water exchange except when conditions would make such an exchange hazardous to a
14 vessel or its crew; requires ships to provide records of their ballast water practices; and includes
15 sanctions for noncompliance. The data collected under the ordinance are public information and will,
16 therefore, be available to the scientific community for further research.

17 The ballast water ordinance applies to all vessels calling at existing and future Port terminal facilities,
18 not just the Berths 55-58 project terminals (Port of Oakland 1998). By reducing the volume of discharge
19 of ballast water that originates from exotic nearshore and estuarine environments from *all* ships using the
20 Port, this ordinance goes far beyond mitigating the 5 percent increase in ballast water volume that could
21 result from the Berths project.

22 **B.4 CONCLUSIONS**

23 As discussed in this document, new, updated, and corrected information has become available since the
24 completion of the FEIS/R for the 50-foot Project in May 1998. As a result the Port performed additional
25 analysis to determine whether this information would result in a change in project impacts. Minor
26 changes in impacts were identified. No new significant impacts were identified, and most potential
27 impacts were shown to be reduced slightly. No new mitigation measures are required to address the
28 changes identified in Section B of this document.

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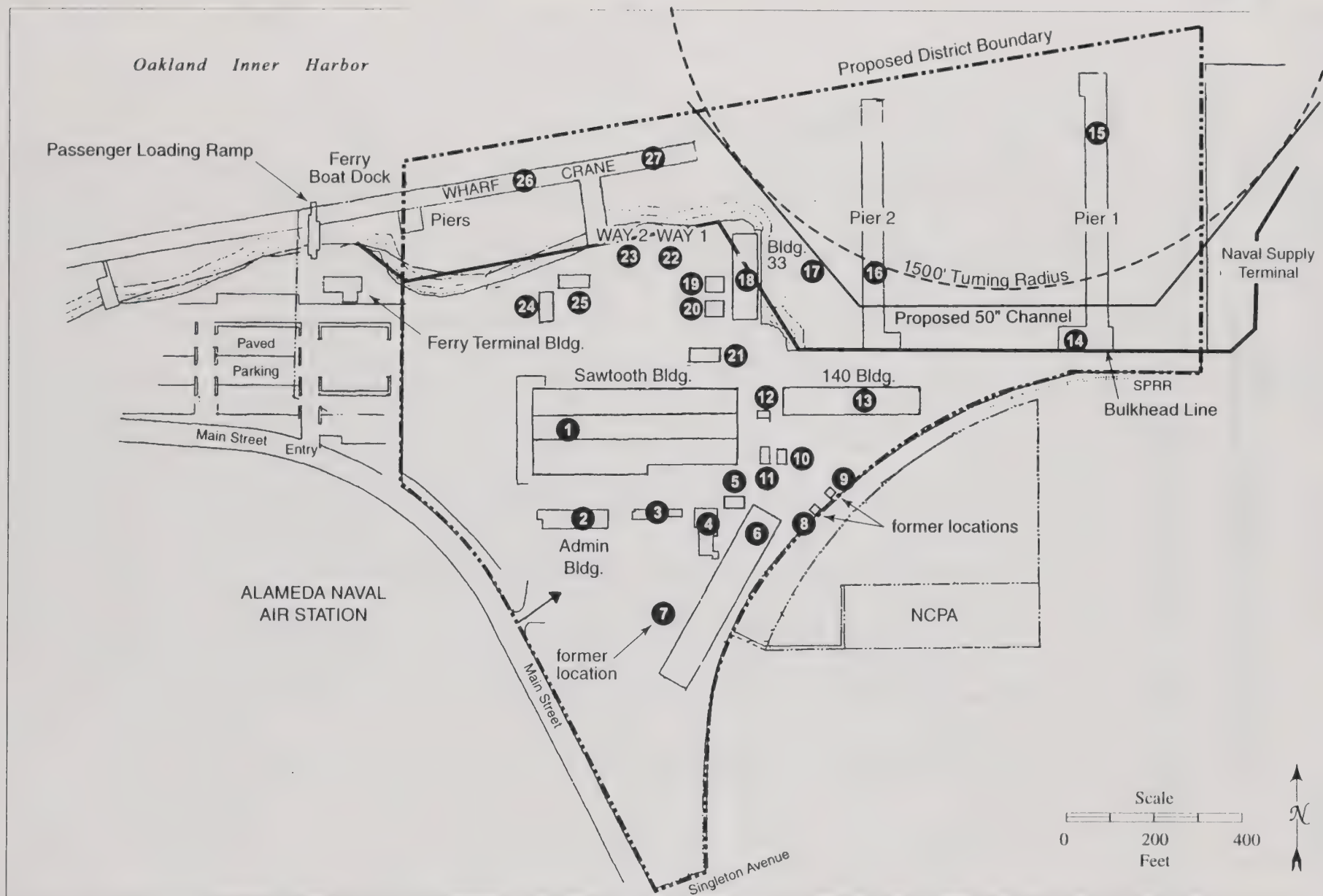


Figure 1

TODD SHIPYARD WITH BUILDING IDENTIFICATIONS

**Table 1. Summary of Total Bay Area Air Basin Emissions
Associated with Each Construction Alternative**

<i>Alternative</i>	EMISSIONS (TOTAL MITIGATED TONS DURING PROJECT CONSTRUCTION PERIOD)					
	<i>ROG</i>	<i>CO</i>	<i>NO_x</i>	<i>SO₂</i>	<i>PM₁₀</i>	<i>TOTAL</i>
B1	23.3	61.1	188.6	4.3	15.9	293.2
B2	22.1	61.3	166.0	3.9	13.5	266.8
B3	23.8	64.4	181.7	4.2	15.0	289.2
B4	30.8	74.1	267.9	5.9	23.3	402.1
B5	24.0	65.4	181.4	4.2	14.9	290.1
B6	25.4	65.2	208.8	4.7	17.7	321.9
F1	25.5	63.7	220.0	4.9	19.0	333.1
F2	23.8	64.0	187.7	4.3	15.7	295.5
F3	26.2	68.5	210.1	4.8	17.7	327.4
F4	20.1	54.9	160.8	3.8	13.4	252.9
F5	19.2	55.0	144.0	3.4	11.6	233.4
F6	24.1	67.7	186.0	4.3	15.5	297.5
F7	23.0	67.8	166.1	4.0	13.4	274.4
F8	17.9	47.2	144.0	3.3	12.0	224.5
F9	19.8	55.9	152.3	3.6	12.5	244.0
F10	29.5	96.2	262.1	6.6	21.5	415.9
F11	34.5	127.2	344.0	9.0	28.1	542.8

Table 2. Distribution of Dredge Material, Trips, Load Factors, and Travel Time Allocations

<i>Dredge Site/ Disposal Site</i>	<i>Maximum Quantity(a) (mcy)</i>	<i>No. of Scow Trips</i>	<i>Travel Time To</i>	<i>Travel Time From</i>	<i>Idle Time/ Trip</i>	<i>Composite Tugboat Load Factor (b)</i>	<i>Scow Size</i>	<i>Loading Capacity</i>	<i>Cubic Yards/ Scow (c)</i>	<i>Tugboat HP</i>
Outer Harbor/ Hamilton	5.2	1,444	3 hours (d)	2 hours (e)	1.5 hours	0.44	5,000 cy	0.9	3,600	1,800
Outer Harbor/ Montezuma	5.2	1,444	4 hours (f)	3 hours (g)	1.5 hours	0.46	5,000 cy	0.9	3,600	1,800
Outer Harbor/ SF-DODS	6.9	2,156	12 hours (h)	8.5 hours (i)	0.5 hour	0.54	5,000 cy	0.8	3,200	3,000
Inner Harbor/ Vision 2000 Site	2.6	722	0.3 hours (j)	0.2 hours (k)	1.0 hour	0.22	5,000 cy	0.9	3,600	800
Outer Harbor/ New Berth 21	1.165	324	0.3 hours (j)	0.2 hours (k)	1.0 hour	0.22	5,000 cy	0.9	3,600	800
Inner Harbor/ MHEA	1.0	278	0.4 hours (l)	0.3 hours (m)	1.0 hour	0.25	5,000 cy	0.9	3,600	800
Outer Harbor/ MHEA	0.583	162	0.4 hours (l)	0.3 hours (m)	1.0 hour	0.25	5,000 cy	0.9	3,600	800

Notes: (a) Maximum quantity that would be dredged/disposed under one or more of the various project alternatives.
(b) Composite load factor based on the following load factors: 0.8 (loaded scow), 0.2 (empty scow), and 0.05 (idle).
(c) Assumes scow load is 20% water; so at a loading capacity of 90%, a 5,000-cy capacity scow carries 3,600 cy: e.g., $0.9 \times 5,000 \text{ cy} \times 0.8 = 3,600 \text{ cy}$.
(d) 16 nmi. @ 7 knots
(e) 16 nmi. @ 9 knots
(f) 27 nmi. @ 7 knots
(g) 27 nmi. @ 9 knots
(h) 58 nmi. @ 5 knots
(i) 58 nmi. @ 7 knots
(j) 1 nmi. @ 3.3 knots
(k) 1 nmi. @ 5 knots
(l) 1.5 nmi. @ 3.75 knots
(m) 1.5 nmi. @ 5 knots

**Table 3. Port of Oakland 50-Foot Deepening Project (Final EIS/R Assumptions)
Emission Source Data Associated with Handling and Transport of Material to Landfill
Handling and Transport of Material (100,000 cy) to Landfill (a)**

<i>Activity/Equipment Type</i>	<i>Horse Power (Hp)</i>	<i>Load Factor</i>	<i>Number Active</i>	<i>Fuel Use (Gal/Hr)</i>	<i>Hours Per Day</i>	<i>Work Days (b)</i>	<i>Total Fuel Usage</i>
D-8 Bulldozer	300	0.50	1	9.90	6	334	19,840
Loader	300	0.50	2	19.80	6	334	39,679
End-Dump Truck (10-12 cy)	220	0.50	10	72.60	6	334	145,490

Note:

a Contaminated material will be hauled to either the Altamont, Redwood, or Vasco Road landfill. Since each of these landfills is approximately the same distance from the rehandling facility (approximately 35 miles), the transport emissions are expected to be the same regardless of which location is used.

b Work days for transport based on the use of 10 trucks per day, 3 trips per truck per day, and 10 cy per trip.

**Table 4. Port of Oakland 50-Foot Deepening Project (Current Assumptions)
Emission Source Data Associated with Handling and Transport of Material to Landfill
Handling and Transport of Material (700,000 cy) to Landfill (a)**

<i>Activity/Equipment Type</i>	<i>Horse Power (Hp)</i>	<i>Load Factor</i>	<i>Number Active</i>	<i>Fuel Use (Gal/Hr)</i>	<i>Hours Per Day</i>	<i>Work Days (b)</i>	<i>Total Fuel Usage</i>
D-8 Bulldozer	300	0.50	1	9.90	6	1,075	63,856
Loader	300	0.50	2	19.80	10	467	92,466
End-Dump Truck (20 cy)	300	0.50	25	247.5	10	467	1,155,825

Note:

a Contaminated material will be hauled to either the Altamont, Redwood, or Vasco Road landfill. Since each of these landfills is approximately the same distance from the rehandling facility (approximately 35 miles), the transport emissions are expected to be the same regardless of which location is used.

b Work days for bulldozer based on total number of days to fill, dry, and empty 700,000 cy in the two cells at the rehandling facility. Work days for transport based on the use of 25 trucks per day, 3 trips per truck per day, and 20 cy per trip.

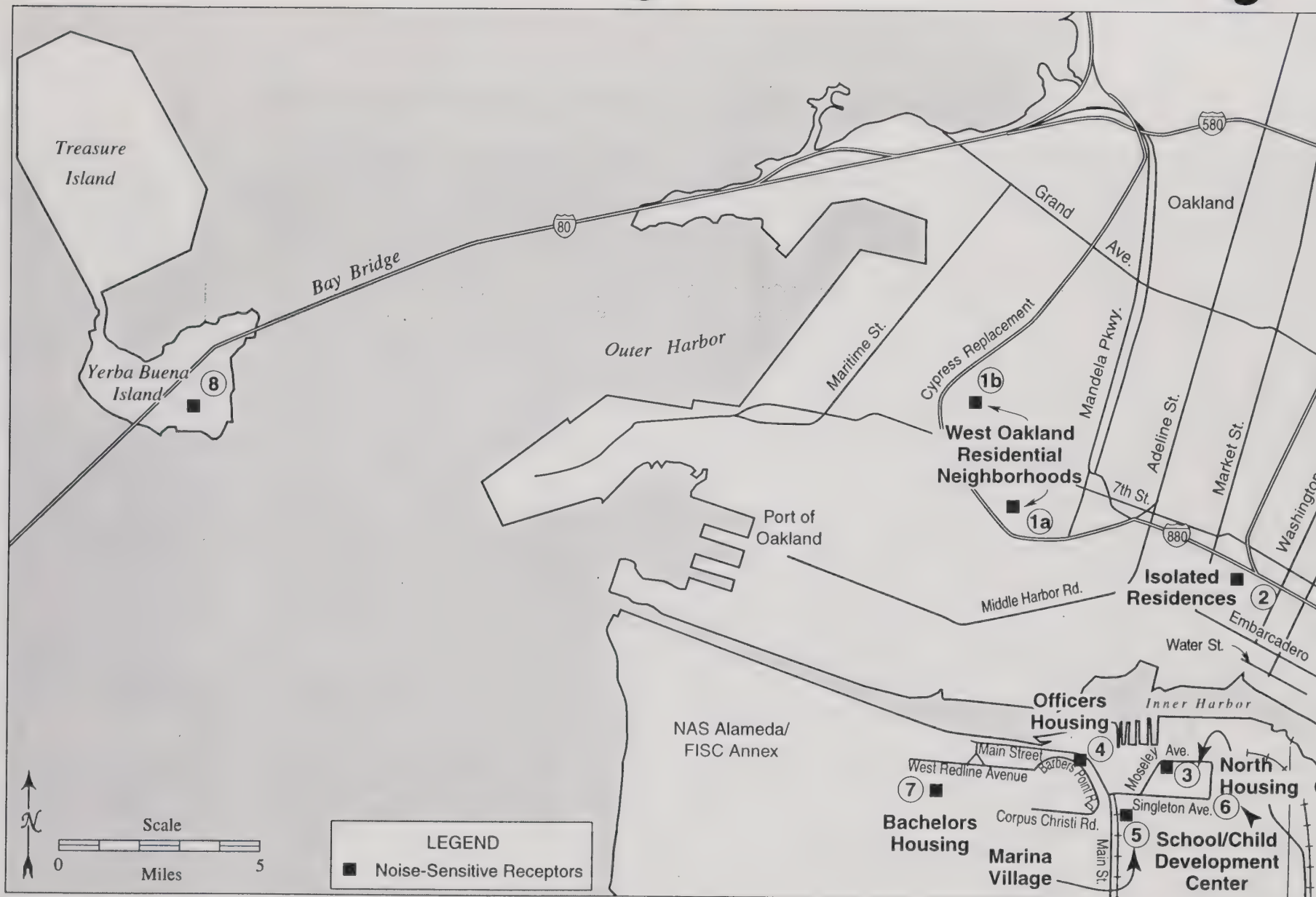


Figure 2

EXISTING AND FUTURE OAKLAND AND ALAMEDA NOISE-SENSITIVE RECEPTORS

Table 5. Summary of Project Construction Noise Levels at Sensitive Noise Receptors

Receptor Location	Time Period	HIGHEST NOISE LEVEL AT RECEPTOR DUE TO PROJECT					Combined Noise Level (Without Mitigation)	Combined Noise Level (With Mitigation)	Oakland Noise Ordinance Standard	Exceeds Standards After Mitigation?
		Inner Harbor Turning Basin	Inner Harbor	Middle Harbor Enhance. Area	Outer Harbor	Alameda Cons. Fill				
#1a-3rd & Peralta Neighborhood (Oakland)	Weekday Day	42	26	25	27	-	42	42	65	No
	Weekend Day	42	26	25	27	-	42	42	55	No
	Nighttime	26	26	25	27	-	31	31	52	No
#1b - 8th & Pine Neighborhood (Oakland)	Weekday Day	27	13	19	34	-	36	36	65	No
	Weekend Day	27	13	19	34	-	36	36	55	No
	Nighttime	11	13	19	34	-	33	33	52	No
#2 - Brush & 4th Vicinity (Oakland)	Weekday Day	48	31	-	-	-	48	48	65	No
	Weekend Day	48	31	-	-	-	48	48	55	No
	Nighttime	32	31	-	-	-	34	34	52	No
#3 - North Housing on Mosley (Alameda)	Weekday Day	66	39	-	-	32	66	65	65	No
	Weekend Day	66	39	-	-	32	66	53	55	No
	Nighttime	50	39	-	-	0	50	50	52	No
#4 - NAS Alameda - Officers Housing	Weekday Day	63	55	19	-	44	64	63	65	No
	Weekend Day	63	55	19	-	44	64	55	55	No
	Nighttime	46	51	19	-	0	52	52	55	No
#5 - Marina Village (Alameda)	Weekday Day	63	33	-	-	32	54	54	65	No
	Weekend Day	63	33	-	-	32	54	54	55	No
	Nighttime	37	33	-	-	0	39	39	55	No
#6 - Miller School & Child Dev. Center (Alameda)	Weekday Day	53	32	-	-	24	53	53	65	No
	Weekend Day	53	32	-	-	24	53	53	55	n/a
	Nighttime	37	32	-	-	0	38	38	52	n/a
#7 - NAS Alameda - Bachelors Housing	Weekday Day	44	42	27	-	54	55	55	65	No
	Weekend Day	44	42	27	-	54	55	55	55	No
	Nighttime	28	42	27	-	0	42	42	47	No (a)
#8 - Yerba Buena Island (Alameda)	Weekday Day	-	-	-	32	-	32	32	65	No
	Weekend Day	-	-	-	32	-	32	32	55	No
	Nighttime	-	-	-	32	-	32	32	45	No

Note: "-" Noise Level does not measurably contribute to combined noise level.

(a) The nighttime noise standard is based on ambient noise levels. At Bachelors Housing, which is currently unoccupied, the existing ambient noise level at night is 47 dBA.

If Bachelors Housing becomes occupied, the ambient noise level is expected to increase.

Source: Geier & Geier Consulting, Inc. (1999)

Table 6. Summary of Cumulative Construction Noise Levels at Sensitive Noise Receptors

Receptor Location	Time Period	HIGHEST NOISE LEVEL AT RECEPTOR DUE TO PROJECT									Combined Noise Level (Without Mitigation)	Combined Noise Level (With Mitigation)	Oakland Noise Ordinance Standard	Exceeds Standards after Mitigation?
		Inner Harbor Turning Basin	Berths 55-58	FISCO Demolition	Inner Harbor	Middle Harbor Enhancement Area	Outer Harbor	New Berth 21	JIT	Alameda Cons. Fill				
#1a-3rd & Peralta Neighborhood (Oakland)	Weekday Day	42	46	40	26	25	27	20	53	-	54	54	65	No
	Weekend Day	42	46	40	26	25	27	20	53	-	54	54	55	No
	Nighttime	26	46	0	26	25	27	20	53	-	54	52	52	No
#1b - 8th & Pine Neighborhood (Oakland)	Weekday Day	27	40	34	13	19	34	31	53	-	53	53	65	No
	Weekend Day	27	40	34	13	19	34	31	53	-	53	53	55	No
	Nighttime	11	40	0	13	19	34	31	53	-	53	52	52	No
#2 - Brush & 4th Vicinity (Oakland)	Weekday Day	48	28	-	31	-	-	-	-	-	48	48	65	No
	Weekend Day	48	28	-	31	-	-	-	-	-	48	48	55	No
	Nighttime	32	28	-	31	-	-	-	-	-	35	34	52	No
#3 - North Housing on Mosley (Alameda)	Weekday Day	66	40	-	39	-	-	-	-	32	66	65	65	No
	Weekend Day	66	40	-	39	-	-	-	-	32	66	54	55	No
	Nighttime	50	40	-	39	-	-	-	-	0	51	51	52	No
#4 - NAS Alameda - Officers Housing	Weekday Day	63	52	-	55	19	-	-	-	44	64	63	65	No
	Weekend Day	63	52	-	55	19	-	-	-	44	64	55	55	No
	Nighttime	46	52	-	51	19	-	-	-	0	56	53	55	No
#5 - Marina Village (Alameda)	Weekday Day	63	36	-	33	-	-	-	-	32	54	54	65	No
	Weekend Day	63	36	-	33	-	-	-	-	32	54	42	55	No
	Nighttime	37	36	-	33	-	-	-	-	0	41	39	52	No
#6 - Miller School & Child Dev. Center (Alameda)	Weekday Day	53	33	-	32	-	-	-	-	24	53	53	65	No
	Weekend Day	53	33	-	32	-	-	-	-	24	53	41	55	n/a
	Nighttime	37	33	-	32	-	-	-	-	0	39	38	52	n/a
#7 - NAS Alameda - Bachelors Housing	Weekday Day	44	55	42	42	27	-	-	-	54	59	59	65	No
	Weekend Day	44	55	42	42	27	-	-	-	54	59	55	55	No
	Nighttime	28	55	0	42	27	-	-	-	0	57	47	47	No (a)
#8 - Yerba Buena Island (Alameda)	Weekday Day	-	-	-	-	-	32	-	-	-	32	32	65	No
	Weekend Day	-	-	-	-	-	32	-	-	-	32	32	55	No
	Nighttime	-	-	-	-	-	32	-	-	-	32	32	45	No

Note: "-" Noise Level does not measurably contribute to combined noise level.

(a) The nighttime noise standard is based on ambient noise levels. At Bachelors Housing, which is currently unoccupied, the existing ambient noise level at night is 47 dBA. If Bachelors Housing becomes occupied, the ambient noise level is expected to increase.

Source: Geier & Geier Consulting, Inc. (1999)

Table 7. Estimated Ballast Water Discharge (Metric Tons)¹

<i>Vessel Capacity (TEUs)</i>	<i>Estimated Average Ballast Water Discharge per Ship Call</i>	<i>Fleet Mix in 1996 (Table 5.7-1)</i>	<i>Estimated Ballast Water Discharge in 1996</i>	<i>Fleet Mix w/o Project in 2010 (Table 8.3-4)</i>	<i>Estimated Ballast Water Discharge w/o Project in 2010</i>	<i>Fleet Mix w/ Project in 2010²</i>	<i>Estimated Ballast Water Discharge w/ Project in 2010</i>
Panamax Vessels							
<2,000	4,000	489	1,956,000	0	0	0	0
2,000-3,000	4,000	577	2,308,000	154	616,000	49	196,000
3,000-4,000	4,000	396	1,584,000	665	2,660,000	195	780,000
Post-Panamax Vessels							
4,000-5,000	1,000	119	119,000	205	205,000	243	243,000
>5,000	1,000	49	49,000	0	0	486	486,000
Total		1,630	6,016,000	1,024	3,481,000	973	1,705,000

Notes:

1. This table assumes that all vessels calling at the Port of Oakland will discharge ballast water, whereas some vessels have the capability to transfer ballast water internally and typically do not discharge. The table does not distinguish between vessels that perform oceanic ballast water exchange from those that do not.
2. The number of vessel calls in this column is based on a total of 973 vessel calls for 2010 (see row #4 [dredging only scenario] and column E in Table A6 from the JWD Report [JWD 1998]) x the distribution of vessel calls by class size for 2010 (Table A2 from the JWD Report).



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Table 2. Estimated Impact of the Proposed Project on the Environment

Category	Impact	Significance	Impact	Significance	Impact	Significance	Impact	Significance
1. Air Quality	1.1. Construction	1.1.1. Dust	1.1.2. Noise	1.1.3. Vibration	1.1.4. Air Pollution	1.1.5. Global Warming	1.1.6. Acid Deposition	1.1.7. Other
2. Water Quality	2.1. Construction	2.1.1. Sediment	2.1.2. Noise	2.1.3. Vibration	2.1.4. Air Pollution	2.1.5. Global Warming	2.1.6. Acid Deposition	2.1.7. Other
3. Land Use	3.1. Construction	3.1.1. Dust	3.1.2. Noise	3.1.3. Vibration	3.1.4. Air Pollution	3.1.5. Global Warming	3.1.6. Acid Deposition	3.1.7. Other
4. Biological Resources	4.1. Construction	4.1.1. Dust	4.1.2. Noise	4.1.3. Vibration	4.1.4. Air Pollution	4.1.5. Global Warming	4.1.6. Acid Deposition	4.1.7. Other
5. Cultural Resources	5.1. Construction	5.1.1. Dust	5.1.2. Noise	5.1.3. Vibration	5.1.4. Air Pollution	5.1.5. Global Warming	5.1.6. Acid Deposition	5.1.7. Other
6. Historical Resources	6.1. Construction	6.1.1. Dust	6.1.2. Noise	6.1.3. Vibration	6.1.4. Air Pollution	6.1.5. Global Warming	6.1.6. Acid Deposition	6.1.7. Other
7. Geology and Soils	7.1. Construction	7.1.1. Dust	7.1.2. Noise	7.1.3. Vibration	7.1.4. Air Pollution	7.1.5. Global Warming	7.1.6. Acid Deposition	7.1.7. Other
8. Seismicity and Earthquake Hazards	8.1. Construction	8.1.1. Dust	8.1.2. Noise	8.1.3. Vibration	8.1.4. Air Pollution	8.1.5. Global Warming	8.1.6. Acid Deposition	8.1.7. Other
9. Utilities and Transportation	9.1. Construction	9.1.1. Dust	9.1.2. Noise	9.1.3. Vibration	9.1.4. Air Pollution	9.1.5. Global Warming	9.1.6. Acid Deposition	9.1.7. Other
10. Visual Resources	10.1. Construction	10.1.1. Dust	10.1.2. Noise	10.1.3. Vibration	10.1.4. Air Pollution	10.1.5. Global Warming	10.1.6. Acid Deposition	10.1.7. Other
11. Cumulative Impacts	11.1. Construction	11.1.1. Dust	11.1.2. Noise	11.1.3. Vibration	11.1.4. Air Pollution	11.1.5. Global Warming	11.1.6. Acid Deposition	11.1.7. Other